



Search Report

EIC 1700

STIC Database Tracking Number: 264606

To: MICHAEL BERNSTEYN
Location: REM-10D25
Art Unit: 1796
Monday, July 14, 2008

Case Serial Number: 10/542019

From: MEI HUANG
Location: EIC1700
REM-4B31
Phone: (571)272-3952

mei.huang@uspto.gov

Search Notes

Examiner BERNSTEYN:

Please feel free to contact me if you have any questions or if you would like to refine the search query. Thank you for using STIC services!

Regards,
Mei

SCIENTIFIC REFERENCE BR
Sci. & Tech. Inf. Ctr.
JUN 26 REC'D
Pat. & T.M. Office

Access DB# 264606

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: MICHAEL BERNSTEYN Examiner #: 81515 Date: 06/25/06
Art Unit: 1796 Phone Number 30571-272-2411 Serial Number: 10/542,619
Mail Box and Bldg/Room Location: Rem. 10025 Results Format Preferred: (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords; synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Crosslinked polyvinyl acetals

Inventors (please provide full names): Bernd Papenfuss, Martin Stever,
Matthias Gutweller

Earliest Priority Filing Date: 01/09/2003

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please, try to find a polymers (A1) and (A2) according with all limitations of claims 1-12.

Thank you

M. Bernstein

Please, pay attention to the Priority Date!

SEARCHERS AND COST WHERE APPLICABLE

Searcher: WTH NA Sequence (#) _____ STN _____
Searcher Phone #: _____ AA Sequence (#) _____ Dialog _____
Searcher Location: _____ Structure (#) _____ Questel/Orbit _____
Date Searcher Picked Up: _____ Bibliographic _____ Dr. Link _____
Date Completed: 7/14/08 Litigation _____ Lexis/Nexis _____
Searcher Prep & Review Time: _____ Fulltext _____ Sequence Systems _____
Clerical Prep Time: _____ Patent Family _____ WWW/Internet _____
Online Time: _____ Other _____ Other (specify) _____

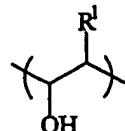
PTO-1590 (8-01)

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method for the manufacture of cross-linked polyvinylacetals, in which a polymer (A1) which contains in relation to its total weight

(a) 1.0 to 99.9 wt% structural units of formula (1)

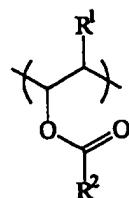


Ub

(1)

wherein R¹ represents hydrogen or methyl

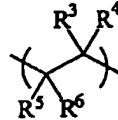
(b) 0 to 99.0 wt% structural units of formula (2)



(2)

wherein R² represents hydrogen or an alkyl group with 1 to 6 carbon atoms,

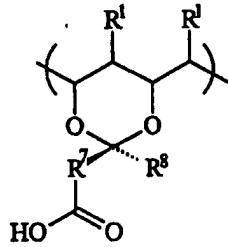
(c) 0 to 70.0 wt% of structural units of formula (3)



(3)

wherein R³, R⁴, R⁵ and R⁶, are in each case groups independent of each other with a molecular weight in the range from 1 to 500 g/mol,

(d) 0.00001 to 30.0 wt% structural units of formula (4a)



(4a)

L 37-38

0

wherein R⁷ is a linkage, an alkylene group with 1 to 10 carbon atoms or an if necessary

substituted arylene group with 6 to 12 carbon atoms and R^8 is hydrogen, COOH, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms, wherein one in any sequence,

- (i) reacts polymer (A1) with at least one polyaldehyde of formula (5),
$$R^9(CHO)_n \quad (5)$$
wherein R^9 represents a linkage or a group having 1 to 40 carbon atoms and n is a whole number greater than 2
and
- (ii) groups of formula (1) and formula (4a) at least partially esterified with each other,

2. (Original) The method according to Claim 1, characterized in that at any point in time at least one compound of formula (6) is added,

$$R^{10} \text{C}(=O)R^1 \quad (6)$$

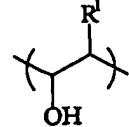
wherein R^{10} and R^{11} , are hydrogen, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms, in each case independent of each other.

3. (Currently Amended) The method according to Claim 1 ~~and/or 2~~, characterized in that a polymer (A1) with $R^8 =$ hydrogen is employed.

4. (Currently Amended) The method according to claim 1 at least one of the preceding Claims, characterized in that a polymer (A1) is employed, in which R^7 is a linkage or an alkylene group with 1 to 4 carbon atoms.

5. (Original) A method for the manufacture of cross-linked polyvinylacetals, in which a polymer (A2) is cross-linked, which in relation to its total weight contains

(a) 1.0 to 99.9 wt% structural units of formula (1)

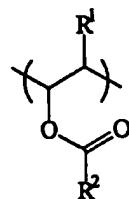


U

(1)

wherein R^1 represents hydrogen or methyl

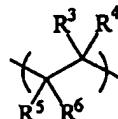
(b) 0 to 99.0 wt% structural units of formula (2)



(2)

wherein R² represents hydrogen or an alkyl group with 1 to 6 carbon atoms,

(c) 0 to 70.0 wt% of structural units of formula (3)

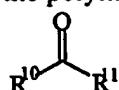


(3)

wherein R³, R⁴, R⁵ and R⁶, are in each case groups independent of each other with a molecular weight in the range from 1 to 500 g/mol,

characterized in that

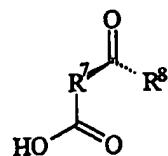
(i) the polymer (A2) reacts with at least one compound of formula (6)



(6)

wherein R¹⁰ and R¹¹, in each case independent of each other, are hydrogen, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms.

(ii) at least one compound of formula (4b) is added



(4b)

154

wherein R⁷ is a linkage, an alkylene group with 1 to 10 carbon atoms or an if necessary substituted arylene group with 6 to 12 carbon atoms and R⁸ is hydrogen, COOH, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms,

(iii) a polyaldehyde added of formula (5),



wherein R⁹ is a linkage or a group having 1 to 40 carbon atoms and n is a whole number greater than 2

and

(iv) groups of formula (1) and derived from structural units of formula (4b) at least partially esterified with each other.

127

6. (Original) The method according to Claim 5, characterized in that at least one compound of formula (4b) with R⁸ = hydrogen is employed.
7. (Currently Amended) The method according to Claim 5 and/or 6, characterized in that at least one compound of formula (4b) is employed, in which R⁷ is a linkage or an alkylene group with 1 to 4 carbon atoms.
8. (Currently Amended) The method according to claim 1 at least one of the preceding Claims characterized in that a compound (5) with n = 2 or 3 is employed.
9. (Currently Amended) The method according to claim 1 at least one of the preceding Claims characterized in that a compound (5) is employed in which R⁹ is an aliphatic, cycloaliphatic and/or aromatic group with 1 to 12 carbon atoms.
10. (Original) The method according to Claim 9, characterized in that glutardialdehyde and/or n-nanedral is utilized as compound (5).
11. (Currently Amended) The method according to claim 1 one of the preceding Claims, characterized in that n-butyraldehyde is employed as compound (6).
12. (Currently Amended) The method according to claim 1 one of the preceding Claims, characterized in that
 - (1) 95.00 to 99.99 parts by weight at least of one compound (6)
 - (2) 0.01 to 5.00 parts by weight at least of a polyaldehyde (5) is added, wherein the parts by weight given is made up to 100.00 parts by weight.
13. (Currently Amended) The method according to claim 1 at least one of the preceding Claims, characterized in that, the esterification (ii) or (iv), is if necessary carried out in presence of at least one softener, at bulk temperatures in the range from 80 to 280 °C.
14. (Original) The method according to Claim 13, characterized in that the cross-linking is carried out in an extruder, kneading device or another heatable unit.
15. (Currently Amended) The cross-linked polyvinylacetal obtainable by means of a method in accordance with claim 1 at least one of the preceding Claims.

16. (Original) The polyvinylacetal in accordance with Claim 15, characterized in that less than 10.0 wt% of its total content is esterified and non-esterified in relation to the total weight of polyvinylacetal.
17. (Currently Amended) The polyvinylacetal in accordance with Claim 15 ~~and/or 16~~, characterized in that it contains softeners.
18. (Currently Amended) Molding material containing a polyvinylacetal in accordance with claim 15 at least one of Claims 15 through 17.
19. (Currently Amended) Film containing a polyvinylacetal in accordance with claim 15 one of Claims 15 through 18.
20. (Original) The use of a film in accordance with Claim 19 for the manufacture of laminated safety glasses.
21. (Currently Amended) A coating containing a polyvinylacetal in accordance with claim 15 at least one of Claims 15 through 17.
22. (Currently Amended) The use of a polyvinylacetal in accordance with claim 15 at least one of Claims 15 through 17 for the manufacture of ionically conductive intermediate layers for electrochromic systems.



VOLUNTARY SEARCH FEEDBACK

Art Unit

App./Serial #

Relevant prior art found

- 102 rejection
- 103 rejection
- Cited as being of interest
- Helped better understand invention
- Helped better understand state of the art in technology

Types Foreign Patent(s) Non-Patent Literature

Relevant prior art not found

- Results verified the lack of relevant prior art (helped determine patentability).
- Results were not useful in determining the patentability or understanding of the invention.

COMMENTS

Questions about the scope or the results of the search?
Contact your EIC searcher or Team Leader.

Please submit completed form to your EIC

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1207

Today's Date

Additional Notes if applicable (please indicate all actions including emails, phone calls, and individuals assisting):

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STRUCTURE FILE UPDATES: 13 JUL 2008 HIGHEST RN 1033821-28-1
DICTIONARY FILE UPDATES: 13 JUL 2008 HIGHEST RN 1033821-28-1

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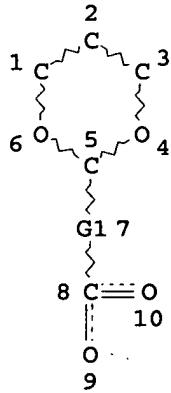
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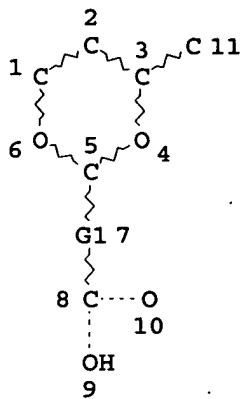
=> d que stat 134
L29 STR



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NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE
L31 1411 SEA FILE=REGISTRY SSS FUL L29
L32 STR



REP G1=(1-10) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

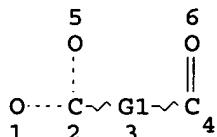
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100.0% PROCESSED 49 ITERATIONS

28 ANSWERS

SEARCH TIME: 00.00.01

=> d que stat 151
L42 STR



REP G1=(1-10) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L49 SCR 1840 OR 2040 OR 2016 OR 2026

L51 151466 SEA FILE=REGISTRY SSS FUL L42 NOT L49

100.0% PROCESSED 571616 ITERATIONS

151466 ANSWERS

SEARCH TIME: 00.00.03

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SEL RN

FILE 'REGISTRY' ENTERED AT 12:36:35 ON 14 JUL 2008
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L3 1 SEA ABB=ON PLU=ON 9002-89-5/RN
D SCA
E "(C3H6O)X"/MF
L4 29 SEA ABB=ON PLU=ON "(C3H6O)X"/MF
D SCA L3
D SCA

L5 1 SEA ABB=ON PLU=ON L4 AND 1-PROPEN-1-OL, HOMOPOLYMER/CN
L6 2 SEA ABB=ON PLU=ON L3 OR L5

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L7 STR

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L8 0 SEA SSS SAM L7

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L9 STR L7

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L12 1 SEA ABB=ON PLU=ON PROPANEDIAL/CN
D SCA
L13 1 SEA ABB=ON PLU=ON 83513-30-8/RN
D SCA
L14 1 SEA ABB=ON PLU=ON 16002-19-0/RN
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 L26 1 SEA ABB=ON PLU=ON HEXADECANEDIAL/CN
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 L27 STR
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 L28 3 SEA SSS SAM L27
 D SCA
 L29 STR L27
 L30 9 SEA SSS SAM L29
 L31 1411 SEA SSS FUL L29
 SAV L31 BER0194A/A

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 L32 STR L29
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 L34 28 SEA SUB=L31 SSS FUL L32
 SAV L34 BER0194AS1/A
 D SCA
 L35 0 SEA ABB=ON PLU=ON L34 AND RC=1
 L36 10 SEA ABB=ON PLU=ON L34 AND NR=1
 D SCA
 L37 0 SEA ABB=ON PLU=ON L36 AND PMS/CI

FILE 'HCAPLUS' ENTERED AT 13:53:05 ON 14 JUL 2008
 L38 74906 SEA ABB=ON PLU=ON L6
 L39 QUE ABB=ON PLU=ON POLYVINYLALCOHOL OR POLYVINYL(W)ALCOHOL OR POLY(W)VINYL(W)ALCOHOL# OR PVA OR PVOH OR PVAL
 L40 6 SEA ABB=ON PLU=ON L36
 L41 0 SEA ABB=ON PLU=ON (L38 OR L39) AND L40

FILE 'LREGISTRY' ENTERED AT 14:02:23 ON 14 JUL 2008
 L42 STR

FILE 'REGISTRY' ENTERED AT 14:04:20 ON 14 JUL 2008

L43 50 SEA SSS SAM L42
 L44 SCR 2043

FILE 'REGISTRY' ENTERED AT 14:09:28 ON 14 JUL 2008

L45 SCR 1840
 L46 50 SEA SSS SAM L42 NOT L45
 L47 SCR 1840 OR 2040
 L48 50 SEA SSS SAM L42 NOT L47
 L49 SCR 1840 OR 2040 OR 2016 OR 2026
 L50 50 SEA SSS SAM L42 NOT L49
 L51 151466 SEA SSS FUL L42 NOT L49
 SAV TEMP BER0194B/A L51

FILE 'HCAPLUS' ENTERED AT 14:14:39 ON 14 JUL 2008

L52 163595 SEA ABB=ON PLU=ON L51
 DEL BER0194B/A
 L53 1 SEA ABB=ON PLU=ON 2004:587942/AN

FILE 'REGISTRY' ENTERED AT 14:57:48 ON 14 JUL 2008

L54 2 SEA ABB=ON PLU=ON (111-30-8/BI OR 51651-40-2/BI)
 L55 17 SEA ABB=ON PLU=ON (L11 OR L12 OR L13 OR L14 OR L15 OR
 L16 OR L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR
 L24 OR L25 OR L26) OR L54

FILE 'HCAPLUS' ENTERED AT 15:06:40 ON 14 JUL 2008

L56 32728 SEA ABB=ON PLU=ON L55
 L57 1380 SEA ABB=ON PLU=ON (L38 OR L39) AND L56
 L58 58 SEA ABB=ON PLU=ON L57 AND L52
 L59 44 SEA ABB=ON PLU=ON L58 AND (PY<=2003 OR PRY<=2003 OR
 AY<=2003)
 L60 QUE ABB=ON PLU=ON ?ALDEHYDE?
 L61 QUE ABB=ON PLU=ON ?KETONE?
 L62 26 SEA ABB=ON PLU=ON L59 AND (L60 OR L61)
 L63 QUE ABB=ON PLU=ON (CROSSLINK? OR CROSS(W)LINK? OR
 CURING OR NETWORK?) (2A) (AGENT? OR ADDITIVE? OR COMPOUND?)
 OR LINKER? OR CROSSLINKER?
 L64 14 SEA ABB=ON PLU=ON (L59 OR L62) AND L63
 L65 9 SEA ABB=ON PLU=ON L62 AND L64
 L66 5568 SEA ABB=ON PLU=ON L55 (L) RACT/RL
 L67 1418 SEA ABB=ON PLU=ON L55 (L) L63
 L68 412 SEA ABB=ON PLU=ON L66 AND L67
 L69 QUE ABB=ON PLU=ON POLYVINYL(W)ACETAL? OR POLY(W)VINYL(W)
)ACETAL? OR POLYVINYLACETAL?
 L70 6 SEA ABB=ON PLU=ON L68 AND L69
 L71 1 SEA ABB=ON PLU=ON L59 AND L69
 D SCA
 L72 9 SEA ABB=ON PLU=ON L65 NOT L71
 L73 5 SEA ABB=ON PLU=ON L64 NOT (L71 OR L72)
 L74 16 SEA ABB=ON PLU=ON L62 NOT (L71 OR L72 OR L73)
 L75 13 SEA ABB=ON PLU=ON L59 NOT (L71 OR L72 OR L73 OR L74)
 L76 20 SEA ABB=ON PLU=ON L34
 L77 0 SEA ABB=ON PLU=ON (L38 OR L39) AND L76

=> fil hcap

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FILE COVERS 1907 - 14 Jul 2008 VOL 149 ISS 3
FILE LAST UPDATED: 13 Jul 2008 (20080713/ED)

HCAPLUS now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 171 ibib abs hitstr hitind

L71 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:836522 HCAPLUS
DOCUMENT NUMBER: 139:354456
TITLE: Compositions and methods for delivery of drugs and nucleic acids using pH sensitive molecules
INVENTOR(S): Monahan, Sean D.; Wolff, Jon A.; Hagstrom, James E.; Budker, Vladimir G.; Rozema, David B.
PATENT ASSIGNEE(S): Mirus Bio Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 47 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030199090	A1	20031023	US 2002-83456	200202 26
US 7208314	B2	20070424		<--
PRIORITY APPLN. INFO.:			US 2002-83456	200202 26

AB A system relating to the delivery of desired compds. (e.g., drugs and nucleic acids) into cells using pH-sensitive delivery systems is presented. The system provides compns. and methods for the delivery and release of a compound to a cell. Transfection of Hela cells with histone H1 and the membrane active peptide melittin, dimethylmaleic-modified melittin or succinic anhydride-modified melittin was carried out. The 2,3-dimethylmaleic modification of melittin allowed the peptide to complex with the cationic protein

histone H1 and then cleave to release and reactivate in the lowered pH encountered by the complex in the cellular endosomal compartment. This caused a significant increase in luciferase expression over either unmodified melittin peptide or melittin peptide modified with succinic anhydride which allows complexing with histone H1 but does not cleave in lowered pH. Further, hemolytic activity of the transfection compds. was evaluated.

IT 111-30-8, Glutaric dialdehyde 692-29-5, Succinic semialdehyde 24991-23-9

RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses) (compns. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

Formula (5)

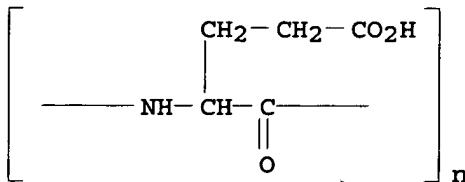
RN 692-29-5 HCPLUS

CN Butanoic acid, 4-oxo- (CA INDEX NAME)

OHC—CH₂—CH₂—CO₂H

RN 24991-23-9 HCPLUS

CN Poly[imino[(1S)-1-(2-carboxyethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



IT 9002-89-5DP, Polyvinyl alcohol, reaction

products with 3-aminopropyltrimethoxysilane 313048-86-1P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (compns. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C₂ H₄ O

H₂C=CH—OH

Formula
(1)

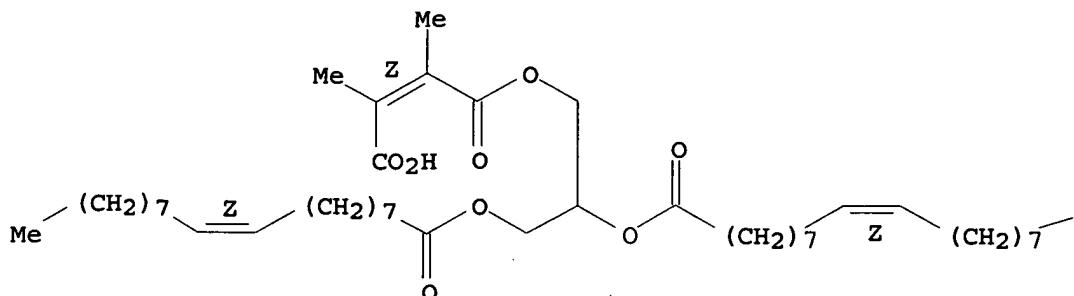
Mhuang EIC1700 REM4B31

07/14/2008

CN 2-Butenedioic acid, 2,3-dimethyl-, 1-[2,3-bis[[((9Z)-1-oxo-9-octadecen-1-yl)oxy]propyl] ester, (2Z)- (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

—Me

IC ICM C12N015-63
ICS C12N015-85

INCL 435455000

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 1, 3

IT Polyvinyl acetals

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ketals; compns. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

IT 56-81-5, Glycerol, biological studies 107-15-3, Ethylene diamine, biological studies 108-30-5, Succinic anhydride, biological studies 111-30-8, Glutaric dialdehyde 112-77-6, Oleoyl chloride 112-90-3, Oleylamine 515-94-6, 2,3,-Diaminopropionic acid 563-96-2, Glyoxylic acid monohydrate 616-30-8, 3-Amino-1,2-propanediol 692-29-5, Succinic semialdehyde 1009-61-6, 1,4-Diacetylbenzene 2163-48-6, Diethylpropylmalonate 3699-66-9, Triethyl-2-phosphonopropionate 7209-38-3, 1,4-Bis(3-aminopropyl)piperazine 10389-65-8 13192-04-6, Dimethyl-2-oxoglutamate 13726-67-5, N-(tert-Butoxycarbonyl)-L-aspartic acid 24991-23-9 25513-46-6, Poly-L-glutamic acid 29022-11-5, Fmoc-glycine 60129-38-6 289888-16-0 313048-80-5

RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(compns. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

IT 487-66-1P 9002-89-5DP, Polyvinyl alcohol
, reaction products with 3-aminopropyltrimethoxysilane

9003-05-8DP, Acrylamide homopolymer, reaction products with pAckL3
 13822-56-5DP, 3-Aminopropyltrimethoxysilane, reaction products
 poly-DL-serine 25104-18-1DP, Poly-L-Lysine, succinylated
 29056-54-0DP, Poly-DL-serine, reaction products with
 3-Aminopropyltrimethoxysilane 35141-36-7DP, N-
 Trimethoxysilylpropyl-N,N,N-trimethylammonium chloride, reaction
 products with polyserine 37231-28-0DP, Melittin, reaction products
 with 2,3-Dimethylmaleic anhydride 38000-06-5DP, Poly-L-lysine,
 sru, succinylated 58068-97-6DP, N-[3-(Triethoxysilyl)propyl]4,5-
 dihydroimidazole, reaction products with polyserine 138134-74-4P
 163222-85-3P 289888-17-1P, MC 151 289888-18-2P 313048-70-3P
 313048-78-1P, MC 303 313048-86-1P 313049-16-0P, MC 216
 313049-22-8P, MC 211 313049-25-1P, MC 225 313049-26-2P, MC 372
 313049-27-3P, MC 373 313049-28-4P 313049-29-5P 313049-34-2P
 313049-35-3P 313049-45-5P, MC 217 313050-03-2P 313050-61-2P
 313050-83-8P, MC 228 313050-85-0P, MC 208 313050-87-2P, MC 218
 313050-91-8P, MC 140 313050-96-3P, MC 229 313051-30-8P, MC 312
 313056-34-7P 313058-16-1P 313058-17-2P 313271-83-9DP, reaction
 products with polylysine 371246-56-9P 616894-30-5DP, reaction
 products with 2,3-dimethylmaleimide 618106-39-1P, MC 222
 618106-46-0P, MC 369 618107-18-9P, MC 221 618114-23-1P, MC 196
 618114-24-2P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);
 BIOL (Biological study); PREP (Preparation); USES (Uses)
 (comps. and methods for delivery of drugs and nucleic acids
 using pH sensitive mols.)

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

=> d 172 ibib abs hitstr hitind 1-9

L72 ANSWER 1 OF 9 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:903915 HCPLUS
 DOCUMENT NUMBER: 141:386449
 TITLE: Heat-sensitive printing paper with good water
 and solvent resistances, writability, and
 printability
 INVENTOR(S): Kano, Satoshi
 PATENT ASSIGNEE(S): Mitsubishi Paper Mills, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004299380	A	20041028	JP 2003-353144	200310 14
WO 2005035259	A1	20050421	WO 2004-JP13194	200409 03

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR,
 KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
 MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
 SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
 VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

DE 112004000801 T5 20060831 DE 2004-112004000801

200409
03

US 20070026259 A1 20070201 US 2006-555082

200605
12

PRIORITY APPLN. INFO.:

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JP 2003-73995

A
200303
18

<--
JP 2003-353144

A
200310
14

<--
WO 2004-JP13194

W
200409
03

AB The heat-sensitive printing paper comprises (A) a support having thereon (B) a heat-sensitive color-forming layer which form colors upon heat and (C) a protection layer containing poly(vinyl alc.), chitosan, crosslinking agents, and colloidal SiO₂, preferably cationic colloidal SiO₂, as pigments. Preferably, the crosslinking agents comprise aldehydes, epichlorohydrin residue-containing compds., and/or isocyanates. Preferably, the poly(vinyl alc.) contain ≥1 poly(vinyl alcs.) (PVA) selected from unmodified PVA with saponification degree ≥95%, silanol-modified PVA, epoxy-modified PVA, diacetone-modified PVA, and acetoacetyl-modified PVA. Preferably, the protection layer further contain nonionic or cationic water-dispersing binders.

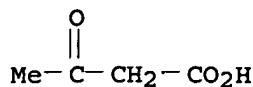
IT 39290-68-1
RL: TEM (Technical or engineered material use); USES (Uses)
(Z 200; heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

RN 39290-68-1 HCPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
CMF C4 H6 O3

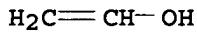


CM 2

CRN 9002-89-5
 CMF (C2 H4 O)x
 CCI PMS

CM 3

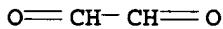
CRN 557-75-5
 CMF C2 H4 O



IT 107-22-2, Glyoxal 9002-89-5, PVA 117
 9002-89-5D, Poly(vinyl alcohol), modified with silanol, epoxy, diacetone, or acetoacetyl
 RL: TEM (Technical or engineered material use); USES (Uses)
 (heat-sensitive printing paper with water- and solvent-resistant
 protection layer containing)

RN 107-22-2 HCAPLUS

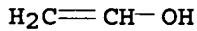
CN Ethenedial (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

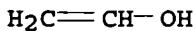
CRN 557-75-5
 CMF C2 H4 O



RN 9002-89-5 HCAPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IC ICM B41M005-26

Mhuang EIC1700 REM4B31

07/14/2008

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38

ST heat sensitive printing paper PVA protection layer;
 chitosan heat sensitive printing paper; colloidal silica pigment
 heat sensitive printing paper; crosslinking agent
 heat sensitive printing paper

IT 39290-68-1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Z 200; heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

IT 822-06-0, Hexamethylene diisocyanate 34937-45-6,
 Acrylamide-epichlorohydrin copolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (crosslinking agents; heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

IT 107-22-2, Glyoxal 9002-89-5, PVA 117
 9002-89-5D, Poly(vinyl alcohol), modified with silanol, epoxy, diacetone, or acetoacetyl
 9012-76-4, OTS 2 10043-35-3, Boric acid, uses 115471-08-4, Poval
 R 1130 130960-31-5, PVA 217 188653-12-5, Snowtex AK-YL
 262603-63-4, Denka Poval W 100 781626-26-4, D 1700 781626-44-6,
 Vinyblan 2685 854021-65-1, Snowtex AK
 RL: TEM (Technical or engineered material use); USES (Uses)
 (heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

L72 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:855982 HCAPLUS

DOCUMENT NUMBER: 139:338810

TITLE: Hydrogels having enhanced elasticity and mechanical strength properties

INVENTOR(S): Omidian, Hossein; Qiu, Yong; Yang, Shicheng;
 Kim, Dukjoon; Park, Haesun; Park, Kinam

PATENT ASSIGNEE(S): Purdue Research Foundation, USA

SOURCE: PCT Int. Appl., 91 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
WO 2003089506	A1	20031030	WO 2003-US12340	200304 22

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BR, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
 NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ,
 TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
 NE, SN, TD, TG

AU 2003234159	A1	20031103	AU 2003-234159	200304 22
US 20030232895	A1	20031218	US 2003-420323	200304 22
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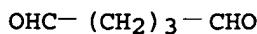
US 6960617	B2	20051101	US 2002-374388P	P
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AB Hydrogels having improved elasticity and mech. strength properties are obtained by subjecting a hydrogel formulation containing a strengthening agent to chemical or phys. crosslinking conditions subsequent to initial gel formation. Superporous hydrogels having improved elasticity and mech. strength properties are similarly obtained whenever the hydrogel formulation is provided with a foaming agent. Interpenetrating networks of polymer chains comprised of primary polymer(s) and strengthening polymer(s) are thereby formed. The primary polymer affords capillary-based water sorption properties while the strengthening polymer imparts significantly enhanced mech. strength and elasticity to the hydrogel or superporous hydrogel. Suitable strengthening agents can be natural or synthetic polymers, polyelectrolytes, or neutral, hydrophilic polymers. Thus, 50% acrylamide solution 500, 1.0% N,N-methylenebisacrylamide solution 100, 10.0% Pluronic F 127 solution 50, glacial acetic acid 50, and 2% aqueous sodium alginate solution 1500 μ l were mixed, 50 μ l 20% ammonium persulfate solution and 50 μ l 20% N,N,N',N'-tetramethylenediamine solution was added therein, 30 mg sodium bicarbonate was added therein and reacted, poured into an 30% aqueous calcium chloride solution, washed, and dried to give a porous hydrogel with good stretching, compression, and bending stress resistance.

IT 111-30-8, Glutaraldehyde
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinker; preparation of hydrogels having enhanced elasticity and mech. strength properties)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

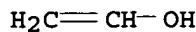


IT 9002-89-5, Polyvinyl alcohol
24991-23-9 26063-13-8, Poly(aspartic acid)
31851-29-3
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(interpenetrating networks; preparation of hydrogels having enhanced elasticity and mech. strength properties)

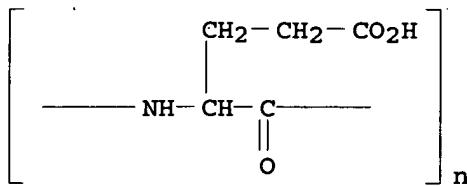
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

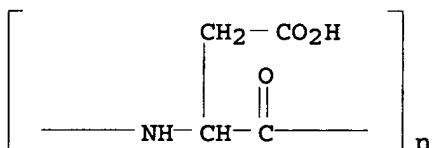
CM 1

CRN 557-75-5
CMF C2 H4 O

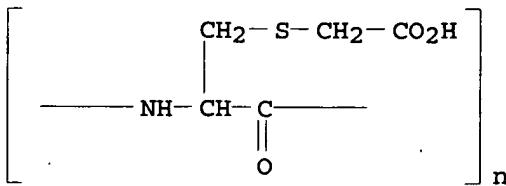
RN 24991-23-9 HCAPLUS
 CN Poly[imino[(1S)-1-(2-carboxyethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



RN 26063-13-8 HCAPLUS
 CN Poly[imino[(1S)-1-(carboxymethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



RN 31851-29-3 HCAPLUS
 CN Poly[imino[(1R)-1-[(carboxymethyl)thio]methyl]-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



IC ICM C08J009-40
 ICS C08G063-48; C08F116-06; C08F016-06; C08F216-06
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 33, 63
 IT 56-81-5, Glycerol, uses 111-30-8, Glutaraldehyde
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinker; preparation of hydrogels having enhanced
 elasticity and mech. strength properties)
 IT 154-23-4, Catechin 327-97-9, Chlorogenic acid 490-46-0,
 Epicatechin 497-76-7, Arbutin 1398-61-4, Chitin 9000-69-5,

Pectin 9002-89-5, Polyvinyl alcohol
 9002-98-6 9003-01-4, Polyacrylic acid 9003-05-8, Polyacrylamide
 9003-39-8, Polyvinyl pyrrolidone 9004-32-4, Carboxymethyl
 cellulose 9004-34-6, Cellulose, uses 9004-54-0, Dextran, uses
 9004-61-9, Hyaluronic acid 9005-25-8, Starch, uses 9005-32-7,
 Alginic acid 9005-38-3, Algin 9005-53-2, Lignin, uses
 9012-76-4, Chitosan 9042-14-2, Dextran sulfate 9063-38-1, Sodium
 starch glycolate 11138-66-2, Xanthan 12619-70-4, Cyclodextrin
 24937-47-1, Poly(L-arginine) 24991-23-9 25068-14-8,
 Polyacrolein 25213-33-6, Polyproline 25322-64-9 25322-68-3,
 Polyethylene glycol 25987-30-8, Acrylic acid-acrylamide copolymer
 sodium salt 26062-79-3, Diallyldimethylammonium chloride
 homopolymer 26063-13-8, Poly(aspartic acid) 26521-10-8,
 Polysarcosine 31851-29-3 38000-06-5, Poly(L-lysine)
 50851-57-5 59680-46-5, Kymene 557H 63183-41-5, Sodium glycine
 carbonate 142804-65-7, Gellan 187606-35-5, 2-Hydroxyethyl
 acrylate-polyethylene glycol diacrylate copolymer
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in
 formulation); PYP (Physical process); TEM (Technical or engineered
 material use); PROC (Process); USES (Uses)
 (interpenetrating networks; preparation of hydrogels having enhanced
 elasticity and mech. strength properties)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L72 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:470700 HCAPLUS

DOCUMENT NUMBER: 139:37686

TITLE: Two-component adhesive compositions with good
 initial bond strength for wood

INVENTOR(S): Kitamura, Kiyoharu; Shibuya, Mitsuo

PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,
 Japan; Mitsubishi Chemical Corp.

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003171637	A	20030620	JP 2001-370800	200112 05
JP 4112853	B2	20080702		<--

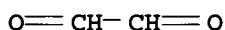
PRIORITY APPLN. INFO.:		JP 2001-370800	200112 05
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AB Two-component adhesive compns. comprise (A) aqueous liqs. containing
 modified vinyl alc. polymers having functional groups reactive
 toward acetoacetate ester groups and Huggins constant ≥ 0.5 and
 (B) aqueous liqs. containing vinyl alc. polymers having acetoacetate ester
 groups. Thus, vinyl acetate was copolymd. with N-vinylformamide in
 MeOH in the presence of AIBN and the resulting copolymer was saponified
 and hydrolyzed to give vinyl alc.-N-vinylamine copolymer (I; amino

group content 7.6 mol%, residual amide content 0.4 mol%, saponification degree 99.8 mol%, Huggins constant 0.55). An aqueous liquid containing 100 parts aqueous solution containing 10% I and 50 parts CaCO₃ was applied on an adherent surface of a wood piece at 200 g/m². An aqueous solution containing poly(vinyl alc.) acetoacetate

(acetoacetate ester content 2 mol%) was applied on an adherent surface of another wood piece at 200 g/m². The bond strength measured 5 min after 2-min pressing of the 2 wood pieces against each other at 10 kg/cm² was 61 kg/cm².

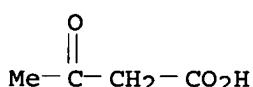
IT 107-22-2, Glyoxal
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (crosslinking agent; two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)
 RN 107-22-2 HCPLUS
 CN Ethanodial (CA INDEX NAME)



IT 39290-68-1, Poly(vinyl alcohol)
) acetoacetate
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)
 RN 39290-68-1 HCPLUS
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
 CMF C₄ H₆ O₃

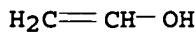


CM 2

CRN 9002-89-5
 CMF (C₂ H₄ O)_x
 CCI PMS

CM 3

CRN 557-75-5
 CMF C₂ H₄ O



IC ICM C09J129-04
 CC 38-3 (Plastics Fabrication and Uses)

ST Section cross-reference(s): 37, 43
 vinyl alc polymer adhesive bond strength; wood adhesive modified
 vinyl alc polymer; amine acetoacetate **polyvinyl**
 alc adhesive strength; two component adhesive modified
polyvinyl alc

IT **Aldehydes, uses**
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
 (Reactant or reagent); USES (Uses)
 (crosslinking agents; two-component adhesives
 containing modified vinyl alc. polymers with good initial bond
 strength for wood)

IT **Crosslinking agents**
 Wood
 (two-component adhesives containing modified vinyl alc. polymers with
 good initial bond strength for wood)

IT 107-22-2, Glyoxal 9002-98-6, Polyethylenimine
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
 (Reactant or reagent); USES (Uses)
 (crosslinking agent; two-component adhesives
 containing modified vinyl alc. polymers with good initial bond
 strength for wood)

IT 39290-68-1, Poly(vinyl alcohol)
) acetoacetate
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT
 (Reactant or reagent); USES (Uses)
 (two-component adhesives containing modified vinyl alc. polymers with
 good initial bond strength for wood)

L72 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:910371 HCAPLUS

DOCUMENT NUMBER: 136:54821

TITLE: Two-component adhesive compositions with high
 initial cure rate and good processability and
 their bonding method

INVENTOR(S): Tanimoto, Seiji; Inomata, Naokiyo

PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001348550	A	20011218	JP 2000-169121	200006 06

PRIORITY APPLN. INFO.: JP 2000-169121

200006
06

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AB The composition comprises first component containing (A) a vinyl alc. polymer
 having an active hydrogen-containing functional group and (B)
 imido-containing isobutylene-maleimide polymer, and second component
 containing a water-soluble aldehyde compound. Thus, first component
 containing amino-modified **polyvinyl alc.** aqueous solution
 200, Isobam 304 (isobutylene-maleimide polymer) 100 and P 30

(calcium carbonate) 100 parts and second component containing 15% glyoxal aqueous solution were coated resp. on two beech wood plates, press bonded and cured, showing high adhesion strength.

IT 9002-89-5D, Polyvinyl alcohol, amino-modified 39290-68-1, Gohsefimer Z 200
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(adhesive compns. containing; two-component adhesive compns. with high initial cure rate and good processability and their bonding method)

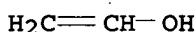
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



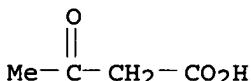
RN 39290-68-1 HCPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

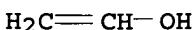
CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O



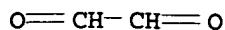
IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde

RL: MOA (Modifier or additive use); USES (Uses)

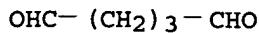
(crosslinking agent; two-component adhesive compns. with high initial cure rate and good processability and their bonding method)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)



RN 111-30-8 HCAPLUS
 CN Pentanedral (CA INDEX NAME)



IC ICM C09J129-04
 ICS C09J005-04; C09J123-22; C09J135-00; C09J163-00
 CC 38-3 (Plastics Fabrication and Uses)
 ST polyvinyl alc two component adhesive;
 isobutylene maleimide polymer two component adhesive;
 aldehyde two component adhesive initial curability
 IT Dialdehydes
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent; two-component adhesive
 compns. with high initial cure rate and good processability and
 their bonding method)
 IT 9002-89-5D, Polyvinyl alcohol,
 amino-modified 39290-68-1, Gohsefimer Z 200 68565-41-3
 98226-17-6, Isobam 304
 RL: POF (Polymer in formulation); TEM (Technical or engineered
 material use); USES (Uses)
 (adhesive compns. containing; two-component adhesive compns. with
 high initial cure rate and good processability and their bonding
 method)
 IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent; two-component adhesive
 compns. with high initial cure rate and good processability and
 their bonding method)

L72 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2000:464810 HCAPLUS
 DOCUMENT NUMBER: 133:96819
 TITLE: Method for ink-jet printing using ink-hardening
 agent for aqueous ink
 INVENTOR(S): Kovacs, Csaba A.; Kung, Teh-Min; Romano, Charles
 Eugene, Jr.
 PATENT ASSIGNEE(S): Eastman Kodak Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000190618	A	20000711	JP 1999-354268	199912 14
EP 1024021	A2	20000802	EP 1999-204146	199912

06

<--

EP 1024021 A3 20000906
 EP 1024021 B1 20030723

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
 PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1998-216288

A
 199812
 18

<--

AB The method for ink-jet printing includes a recording material having a recording layer, which contains a polymer-dispersing agent and gelatin or an cross-link-able acetoacetylated polyvinyl alc., on a support, an aqueous deprotonated cationic dye ink, which is protonated to form a conjugated cationic dye with N-H group, and an aqueous organic ink-hardening agent for crosslinking the polymer in the ink. The method provides an image of the improved light-, moisture, and scratch-resistance.

IT 39290-68-1, Gohsefimer Z 200
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Gohsefimer Z 200; ink-jet ink)

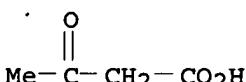
RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

CMF (C₂ H₄ O)_x

CCI PMS

CM 3

CRN 557-75-5

CMF C₂ H₄ O

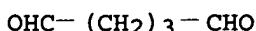


IT 111-30-8, Glutaraldehyde

RL: TEM (Technical or engineered material use); USES (Uses)
 (ink-hardening agent)

RN 111-30-8 HCAPLUS

CN Pentanodial (CA INDEX NAME)



IC ICM B41M005-00
 ICS B41M005-00; B41J002-01; C09D011-00
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 42
 ST ink jet printing **crosslinking agent**
 IT 39290-68-1, Gohsefimer Z 200
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Gohsefimer Z 200; ink-jet ink)
 IT 50-00-0, **Formaldehyde**, uses 111-30-8,
Glutaraldehyde 3278-22-6, Bis(vinylsulfonylmethane)
 4845-50-5, 2,3-Dihydroxy-1,4-dioxane
 RL: TEM (Technical or engineered material use); USES (Uses)
 (ink-hardening agent)

L72 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1999:752938 HCAPLUS
 DOCUMENT NUMBER: 132:4153
 TITLE: Hardener addition to pigmented ink jet inks for
 water-fast images in printing on poly(
 vinyl alcohol) receivers
 INVENTOR(S): Erdtmann, David; Romano, Charles E.; Martin,
 Thomas W.; Maskasky, Joe Edward
 PATENT ASSIGNEE(S): Eastman Kodak Co., USA
 SOURCE: Eur. Pat. Appl., 14 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 959113	A1	19991124	EP 1999-201479	199905 12

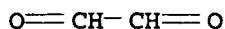
US 6020398	A	20000201	US 1998-83869	199805 22

JP 2000001641	A	20000107	JP 1999-141721	199905 21

PRIORITY APPLN. INFO.:			US 1998-83869	A 199805 22

AB The title hardeners, such as **aldehydes** and **olefins** are
 added to pigmented inks. An ink contained pigment black 7, water,
 biocide, and 0.5% bis(vinylsulfonylmethyl)ether.
 IT 107-22-2, **Glyoxal**
 RL: MOA (Modifier or additive use); USES (Uses)
 (hardener; hardener addition to pigmented ink jet inks for
 water-fast images in printing on poly(vinylalc.) receivers)

RN 107-22-2 HCPLUS
 CN Ethanodial (CA INDEX NAME)

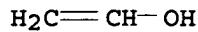


IT 9002-89-5D, Poly(vinylalcohol), acetoacetylated
 39290-68-1, Gohsefimer Z-200
 RL: PEP (Physical, engineering or chemical process); PRP
 (Properties); PROC (Process)
 (receiver sheet; hardener addition to pigmented ink jet inks for
 water-fast images in printing on poly(vinylalc.) receivers)

RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

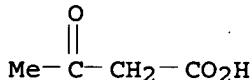
CRN 557-75-5
 CMF C2 H4 O



RN 39290-68-1 HCPLUS
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
 CMF C4 H6 O3

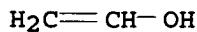


CM 2

CRN 9002-89-5
 CMF (C2 H4 O)x
 CCI PMS

CM 3

CRN 557-75-5
 CMF C2 H4 O



IC ICM C09D011-00
 ICS B41M005-00
 CC 42-12 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 38
 ST pigmented ink printing hardener; aldehyde hardener

printing ink; olefin hardener printing ink

IT **Crosslinking agents**
(aldehyde or olefin blocked or unblocked; hardener addition to pigmented ink jet inks for water-fast images in printing on poly(vinylalc.) receivers)

IT 50-00-0, **Formaldehyde**, uses 107-22-2, Glyoxal
3278-22-6, Bis(vinylsulfonyl)methane 4845-50-5,
2,3-Dihydroxy-1,4-dioxane 26750-50-5,
Bis(vinylsulfonylmethyl)ether 143749-46-6, Sunrez 700M
251092-26-9, Sequarez 755
RL: MOA (Modifier or additive use); USES (Uses)
(hardener; hardener addition to pigmented ink jet inks for water-fast images in printing on poly(vinylalc.) receivers)

IT 9002-89-5D, **Poly(vinylalcohol)**, acetoacetylated
39290-68-1, Gohsefimer Z-200
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(receiver sheet; hardener addition to pigmented ink jet inks for water-fast images in printing on poly(vinylalc.) receivers)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L72 ANSWER 7 OF 9 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1991:681582 HCPLUS
DOCUMENT NUMBER: 115:281582
ORIGINAL REFERENCE NO.: 115:47845a,47848a
TITLE: Adhesive compositions for labels
INVENTOR(S): Shiragami, Sadahiko; Miyazaki, Hirotoshi;
Maruyama, Hitoshi
PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03131648	A	19910605	JP 1989-269946	198910 16

PRIORITY APPLN. INFO.: JP 1989-269946
198910
16

AB Compns. useful for adhesion of labels with glass bottles contain acetoacetylated poly(vinyl alc.) (I), crosslinking agents, alkaline-soluble compds., and/or alkaline-swellable compds. Thus, a composition containing 2.5% acetoacetylated I (d.p. 1700) 100, isobutylene-maleic anhydride copolymer (Isobam 10) powders 20, and glyoxal 3 parts had solid content 22.6%, viscosity 20,500 cP at 20°, and good adhesion when used for adhering labels with glass bottles.

IT 39290-68-1
RL: USES (Uses)

(adhesive compns. containing, for adhesion of labels with glass bottles)

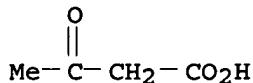
RN 39290-68-1 HCPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

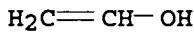
CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O

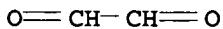


IT 107-22-2, Glyoxal

RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agent, adhesive compns. containing,
for adhesion of labels with glass bottles)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)



IC ICM C08L029-02

ICS C03C027-00; C08G018-62; C08L023-02; C08L029-02; C08L031-04;
C08L035-00; C08L061-34; C09J123-02; C09J129-02; C09J131-04;
C09J135-00; C09J161-34; C09J175-04

CC 38-3 (Plastics Fabrication and Uses)

ST glass bottle label adhesive; acetoacetylated polyvinyl
alc adhesive; isobutylene maleic anhydride copolymer
adhesive

IT Adhesives

(acetoacetylated poly(vinyl alc.),
for labels)

IT Labels

(adhesives for, acetoacetylated poly(vinyl
alc.)-based, for glass bottles)

IT 1344-28-1, Alumina, uses and miscellaneous 9004-32-4,
Carboxymethyl cellulose 10043-01-3, Aluminum sulfate 25609-89-6
39290-68-1 96510-78-0, KI Gel 201 106209-33-0, SMA 1000

110171-93-2, Isobam 10

RL: USES (Uses)

(adhesive compns. containing, for adhesion of labels with glass bottles)

IT 107-22-2, Glyoxal 9011-05-6, Formaldehyde-urea
 copolymer 9016-87-9, Millionate MR
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent, adhesive compns. containing,
 for adhesion of labels with glass bottles)

L72 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1987:20929 HCAPLUS

DOCUMENT NUMBER: 106:20929

ORIGINAL REFERENCE NO.: 106:3553a,3556a

TITLE: Aqueous gel compositions as metalworking lubricants

INVENTOR(S): Shimokawa, Wataru; Fukumori, Katuaki

PATENT ASSIGNEE(S): Hoechst Gosei Co., Ltd., Japan

SOURCE: Ger. Offen., 49 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

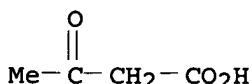
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3609928	A1	19861009	DE 1986-3609928	198603 24
DE 3609928	C2	19901018		<--
JP 61220656	A	19860930	JP 1985-62690	198503 27
JP 63063230	B	19881206		<--
JP 62011456	A	19870120	JP 1985-149015	198507 06
JP 63063231	B	19881206		<--
JP 62112604	A	19870523	JP 1985-252488	198511 11
JP 05008921	B	19930203		<--
GB 2172891	A	19861001	GB 1986-7285	198603 24
GB 2172891	B	19891018		<--
US 4708821	A	19871124	US 1986-843430	198603 24
FR 2579604	A1	19861003	FR 1986-4268	198603 25

FR 2579604 B1 19920221 JP 1985-62690 A <--
 PRIORITY APPLN. INFO.: 198503
 27
 JP 1985-149015 A <-- 198507
 06
 JP 1985-252488 A <-- 198511
 11
 <--
 AB Aqueous gel compns., suitable for use as lubricants, especially in metalworking, are prepared in water by crosslinking a water-soluble acetoacetylated high mol.-weight compound with a crosslinking agent. The gel compns., which can contain a perfume or deodorant, are suitably prepared from acetoacetylated poly(vinyl alc.), hydroxyethyl cellulose, hydroxypropyl cellulose, Me cellulose, CM-cellulose, and starch; suitable crosslinking agents include compds. containing amino, aldehyde, hydrazino, epoxy, and methylol groups, as well as a metal chelate or alkoxide. A 10% aqueous solution of acetoacetylated poly(vinyl alc.) (degree of acetoacetylation 5.5 mol%, degree of hydrolysis 99%, d.p. 1100) was mixed with 10 weight parts of a 10% aqueous solution of N-β-(aminoethyl)-γ-aminopropyltrimethoxysilane and stirred at room temperature, until gelation was complete within 4 min. The gel was transparent and was stable at room temperature for a week, at -20° for 24 h, and at 70° for 24 h.
 IT 39290-68-1D, acetoacetylated 78207-15-5
 104708-71-6D, acetoacetylated 105953-68-2
 105953-69-3 105953-70-6
 RL: USES (Uses)
 (crosslinked, aqueous gels containing, as metalworking lubricants)
 RN 39290-68-1 HCPLUS
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

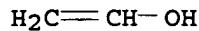
CRN 541-50-4
CMF C4 H6 O3

CM 2

CRN 9002-89-5
CMF (C₂ H₄ O)_x
CCI PMS

CM 3

CRN 557-75-5
 CMF C2 H4 O



RN 78207-15-5 HCPLUS
 CN Starch, 3-oxobutanoate (9CI) (CA INDEX NAME)

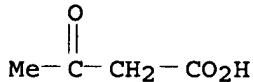
CM 1

CRN 9005-25-8
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 541-50-4
 CMF C4 H6 O3



RN 104708-71-6 HCPLUS
 CN Cellulose, 3-oxobutanoate, 2-hydroxyethyl ether (9CI) (CA INDEX NAME)

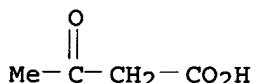
CM 1

CRN 9004-34-6
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

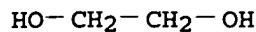
CM 2

CRN 541-50-4
 CMF C4 H6 O3



CM 3

CRN 107-21-1
 CMF C2 H6 O2



RN 105953-68-2 HCPLUS

CN Cellulose, 3-oxobutanoate, carboxymethyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

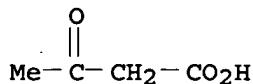
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 541-50-4

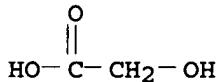
CMF C4 H6 O3



CM 3

CRN 79-14-1

CMF C2 H4 O3



RN 105953-69-3 HCPLUS

CN Cellulose, 3-oxobutanoate, 2-hydroxypropyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

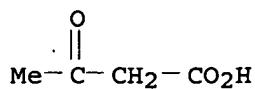
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

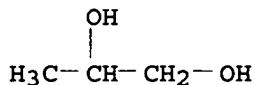
CM 2

CRN 541-50-4

CMF C4 H6 O3



CM 3

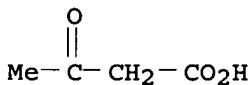
CRN 57-55-6
CMF C3 H8 O2RN 105953-70-6 HCPLUS
CN Cellulose, 3-oxobutanoate, methyl ether (9CI) (CA INDEX NAME)

CM 1

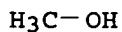
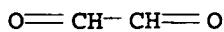
CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 541-50-4
CMF C4 H6 O3

CM 3

CRN 67-56-1
CMF C H4 OIT 107-22-2
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agent, for preparation of aqueous gel
lubricants)
RN 107-22-2 HCPLUS
CN Ethanodial (CA INDEX NAME)

IC ICM C08J003-06
 ICS C08J003-24; C08L031-02; C08L001-32; C08K005-24; C08K005-17;
 C08K005-15; C08K005-07; C08K005-05; C10M173-02; A61K007-46;
 A61L009-01
 ICI C08J003-24, C08K005-24; C08K005-17, C08K005-15, C08K005-07,
 C08K005-05; C10M173-02, C10M107-24
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 56
 ST gel lubricant metalworking; crosslinked acetoacetylated polymer
 metalworking lubricant; polyvinyl alc
 crosslinked lubricant gel
 IT Crosslinking agents
 (for acetoacetylated compds., in preparation of aqueous gel metalworking
 lubricants)
 IT 9002-98-6D, acetoacetylated 39290-68-1D, acetoacetylated
 78207-15-5 104708-71-6D, acetoacetylated
 105953-68-2 105953-69-3 105953-70-6
 RL: USES (Uses)
 (crosslinked, aqueous gels containing, as metalworking lubricants)
 IT 107-22-2 108-78-1D, polymers 497-18-7 1071-93-8,
 Adipic acid dihydrazide 1760-24-3 14814-02-9, Titanium lactate
 26142-30-3 26403-72-5 80778-56-9
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent, for preparation of aqueous gel
 lubricants)
 IT 7429-90-5D, alkoxide salts 7440-32-6D, alkoxide salts
 7440-67-7D, alkoxide salts
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agents, for preparation of aqueous gel
 metalworking lubricants)

L72 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1982:36282 HCAPLUS
 DOCUMENT NUMBER: 96:36282
 ORIGINAL REFERENCE NO.: 96:6017a,6020a
 TITLE: Resin solutions
 PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,
 Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56125446	A	19811001	JP 1980-28618	198003 06
JP 63020264	B	19880427	JP 1980-28618	A 198003 06
AB Solns. for casting waterproof films contain poly(<--
vinyl alc.) acetoacetate (I). [42615-46-3				

], crosslinking agents, and β -diketones. Thus, I (6 mol% acetoacetate) 200, water 160, 25% glyoxal [107-22-2] 25, and acetylacetone [123-54-6] 180 parts was cast to a 100- μ film and dried 1 h at 105°. The film did not dissolve in 1 h in water at 80°.

IT 107-22-2

RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents, for poly(vinyl acetoacetate) films)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)



IT 39290-68-1

RL: USES (Uses)
(waterproof films from crosslinked)

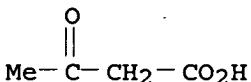
RN 39290-68-1 HCPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O



IC C08L029-04; C08F008-00; C08K005-07

ICA C09D003-74; C09J003-14

CC 37-6 (Plastics Manufacture and Processing)

ST vinyl acetoacetate polymer film; film polymer waterproof; crosslinking plastic film; glyoxal crosslinker film; acetylacetone film waterproof

IT Crosslinking agents

(glyoxal, for poly(vinyl acetoacetate) films)

IT 107-22-2

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinking agents, for poly(vinyl

acetoacetate) films)
 IT 39290-68-1
 RL: USES (Uses)
 (waterproof films from crosslinked)

=> d 173 ibib abs hitstr hitind 1-5

L73 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:780109 HCAPLUS
 DOCUMENT NUMBER: 141:282800
 TITLE: Solid dosage forms containing biodegradable polymer and antibacterial and antiinflammatory agents for treating periodontal disease
 INVENTOR(S): Penhasi, Adel; Reuveni, Albert; Oren, Dan
 PATENT ASSIGNEE(S): Dexcel Pharma Technologies Ltd., Israel
 SOURCE: U.S. Pat. Appl. Publ., 17 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040185009	A1	20040923	US 2003-391196	200303 19
CA 2519038	A1	20041007	CA 2004-2519038	200403 17
WO 2004084873	A1	20041007	WO 2004-IL252	200403 17
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1608349	A1	20051228	EP 2004-757724	200403 17
<--				
EP 1608349	B1	20071017		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
AT 375789	T	20071115	AT 2004-757724	200403

17

ES 2298787	T3	20080516	ES 2004-757724	200403 17

IN 2005DN04293	A	20070831	IN 2005-DN4293	200509 22

PRIORITY APPLN. INFO.:			US 2003-391196	A 200303 19

			WO 2004-IL252	W 200403 17

AB The present invention provides an oral delivery system for the treatment of periodontal disease, being in a solid unit dosage form for administration to a patient and comprising: (i) a biodegradable or bioerodible pharmaceutically acceptable polymer; (ii) a therapeutically effective amount of at least one antibacterial agent; and (iii) a therapeutically effective amount of at least one anti-inflammatory agent, the relative weight ratio between the antibacterial agent and the anti-inflammatory agent ranging from about 7:1 to about 1:5. The system may further comprise at least one of a **crosslinking agent**, a plasticizing agent, a wetting agent, a suspending agent, a surfactant and a dispersing agent.

IT 111-30-8, Pentanedral

RL: RCT (Reactant); RACT (Reactant or reagent)
(solid dosage forms containing biodegradable polymer and antibacterial and antiinflammatory agents for treating periodontal disease)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

IT 9002-89-5, Polyvinyl alcohol
36330-85-5, Fenbufen

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(solid dosage forms containing biodegradable polymer and antibacterial and antiinflammatory agents for treating periodontal disease)

RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

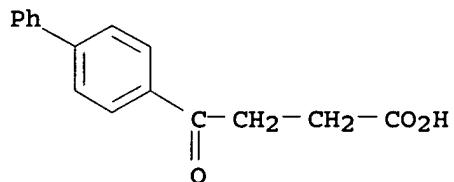
CM 1

CRN 557-75-5

CMF C2 H4 O

H₂C=CH—OH

RN 36330-85-5 HCAPLUS
 CN [1,1'-Biphenyl]-4-butanoic acid, γ -oxo- (CA INDEX NAME)



IC ICM A61K007-16
 ICS A61F009-02
 INCL 424049000
 CC 63-6 (Pharmaceuticals)
 IT Anti-inflammatory agents
 Crosslinking agents
 Dispersing agents
 Gums and Mucilages
 Human
 Periodontium, disease
 Plasticizers
 Surfactants
 Wetting agents
 (solid dosage forms containing biodegradable polymer and
 antibacterial and antiinflammatory agents for treating
 periodontal disease)
 IT 111-30-8, Pentanedral
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (solid dosage forms containing biodegradable polymer and
 antibacterial and antiinflammatory agents for treating
 periodontal disease)
 IT 53-86-1, Indomethacin 55-56-1, Chlorhexidine 56-75-7,
 Chloramphenicol 56-81-5, Glycerin, biological studies 57-62-5,
 Chlortetracycline 57-92-1, Streptomycin, biological studies
 60-54-8, Tetracycline 61-33-6, biological studies 61-68-7,
 Mefenamic acid 63-74-1, Sulfonamide 65-85-0, Benzoic acid,
 biological studies 69-72-7, Salicylic acid, biological studies
 76-22-2, Camphor 77-92-9, biological studies 79-09-4D, Propionic
 acid, derivs. 79-57-2, Oxytetracycline 88-99-3,
 1,2-Benzenedicarboxylic acid, biological studies 112-80-1, Oleic
 acid, biological studies 443-48-1, Metronidazole 530-78-9,
 Flufenamic acid 564-25-0, Doxycycline 644-62-2, Meclofenamic
 acid 1404-04-2, Neomycin 3697-42-5 5104-49-4, Flurbiprofen
 9000-01-5, Acacia gum 9000-30-0, Guar gum 9002-89-5,
 Polyvinyl alcohol 9003-05-8, Polyacryl amide
 9003-39-8, Polyvinylpyrrolidone 9004-34-6D, Cellulose, derivs.
 9005-25-8D, Starch, derivs. 11111-12-9, Cephalosporin
 15307-86-5, Diclofenac 15687-27-1, Ibuprofen 17969-20-9,
 Fenclozic acid 18472-51-0, Chlorhexidine di-gluconate
 21256-18-8, Oxaprozin. 22071-15-4, Ketoprofen 22204-53-1,
 Naproxen 25212-88-8 25249-16-5 25322-68-3 26009-03-0,
 Polyglycolic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-
 ethanediyl)] 26100-51-6, Polylactic acid 26124-68-5,
 Polyglycolic acid 26171-23-3, Tolmetin 29679-58-1, Fenoprofen
 31566-31-1, Glyceryl monostearate 31842-01-0, Indoprofen
 34346-01-5, Glycolic acid-lactic acid copolymer 36322-90-4,
 Piroxicam 36330-85-5, Fenbufen 38194-50-2, Sulindac

41340-25-4, Etodolac 53716-49-7, Carprofen 53808-88-1, Lonazolac
 59804-37-4, Tenoxicam 68767-14-6, Loxoprofen 71125-38-7,
 Meloxicam 758716-16-4

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (solid dosage forms containing biodegradable polymer and
 antibacterial and antiinflammatory agents for treating
 periodontal disease)

L73 ANSWER 2 OF 5 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:325936 HCPLUS

DOCUMENT NUMBER: 137:248530

TITLE: Properties of vinyl acetate resin emulsion using
 acetoacetylated PVA as a protected
 colloid and its wood adhesion ability

AUTHOR(S): Yamada, Masaaki

CORPORATE SOURCE: Department of Agriculture, Shizuoka University,
 Japan

SOURCE: Setchaku (2002), 46(3), 115-122

CODEN: STHKAO; ISSN: 0037-0495

PUBLISHER: Kobunshi Kankokai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB When acetoacetylated PVA (poly(vinyl
 alc.)) was used as a protective colloid to prepare a vinyl
 acetate resin emulsion as a one-component adhesive, if heat
 treatment at 120° was carried out, the acetoacetylated
 PVA was crosslinked and as a result the weight increase at the
 time of absorbing moisture became small and the nonelution rate was
 increased. When isocyanate or glyoxal aqueous solns. were used to prepare
 two-component adhesives the weight increase at the time of absorbing
 moisture became small and water-resistant adhesive strength was
 remarkably improved. And by addition of mixture of isocyanate and
 glyoxal, the adhesive strength was improved.

IT 107-22-2, Glyoxal

RL: TEM (Technical or engineered material use); USES (Uses)
 (crosslinking agent; viscoelasticity of vinyl
 acetate resin emulsion using glyoxal as a crosslinking
 agent)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)

O—CH—CH—O

IT 39290-68-1

RL: TEM (Technical or engineered material use); USES (Uses)
 (properties of vinyl acetate resin emulsion using acetoacetylated
 PVA as a protected colloid and its wood adhesion ability)

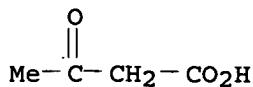
RN 39290-68-1 HCPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3

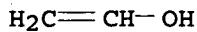


CM 2

CRN 9002-89-5
 CMF (C₂ H₄ O)x
 CCI PMS

CM 3

CRN 557-75-5
 CMF C₂ H₄ O



CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 43

ST aceto acetylated PVA protected colloid vinyl acetate resin emulsion

IT Adhesives
 (one-component; acetoacetylated PVA used as a protective colloid to prepare a vinyl acetate resin emulsion as a one-component adhesive)

IT Wood
 (wood adhesion ability of vinyl acetate resin emulsion using acetoacetylated PVA as a protected colloid)

IT 207308-43-8, Gohsenol GM 14L
 RL: TEM (Technical or engineered material use); USES (Uses)
 (as PVA in preparing vinyl acetate resin emulsion)

IT 101-68-8, MDI
 RL: TEM (Technical or engineered material use); USES (Uses)
 (crosslinking agent; viscoelasticity of vinyl acetate resin emulsion using MDI as a crosslinking agent)

IT 107-22-2, Glyoxal
 RL: TEM (Technical or engineered material use); USES (Uses)
 (crosslinking agent; viscoelasticity of vinyl acetate resin emulsion using glyoxal as a crosslinking agent)

IT 9003-20-7D, Poly(vinyl acetate), saponified
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (properties of vinyl acetate resin emulsion using acetoacetylated PVA as a protected colloid and its wood adhesion ability)

IT 39290-68-1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (properties of vinyl acetate resin emulsion using acetoacetylated PVA as a protected colloid and its wood adhesion ability)

L73 ANSWER 3 OF 5 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:237846 HCPLUS

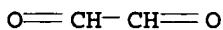
DOCUMENT NUMBER: 126:231566

ORIGINAL REFERENCE NO.: 126:44659a, 44662a

TITLE: Thermal recording material with protective layer containing casein
 INVENTOR(S): Okada, Kyomi
 PATENT ASSIGNEE(S): Oji Paper Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09039387	A	19970210	JP 1995-190861	199507 26
<--				
PRIORITY APPLN. INFO.: JP 1995-190861				199507 26
<--				

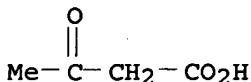
AB The recording material comprises a transparent film, a recording layer containing a leuco dye and a developer, and a protective layer containing casein and acetoacetyl-modified poly(vinyl alc.) as water-soluble polymers. The protective layer may addnl. contain a silicone emulsion to improve transparency and antisticking property. The recording material has a uniform surface and shows good antisticking property.
 IT 107-22-2, Glyoxal
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent; transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)
 RN 107-22-2 HCPLUS
 CN Ethanodial (CA INDEX NAME)



IT 39290-68-1, Gohsefimer Z 200
 RL: DEV (Device component use); USES (Uses)
 (transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)
 RN 39290-68-1 HCPLUS
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
CMF C4 H6 O3

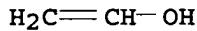


CM 2

CRN 9002-89-5
 CMF (C2 H4 O)x
 CCI PMS

CM 3

CRN 557-75-5
 CMF C2 H4 O



IC ICM B41M005-26
 ICS B05D007-04; B05D007-24; B32B027-30; C08J007-04
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 IT Polysiloxanes, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); USES
 (Uses)
 (emulsions; transparent thermal recording material with
 protective layer containing casein and poly(vinyl
 alc.) acetoacetate to improve antisticking property)
 IT Polysiloxanes, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); USES
 (Uses)
 (epoxy-containing, emulsions; transparent thermal recording material
 with protective layer containing casein and poly(vinyl
 alc.) acetoacetate to improve
 antisticking property)
 IT Thermal printing
 (transparent thermal recording material with protective layer
 containing casein and poly(vinyl alc.)
 acetoacetate to improve antisticking property)
 IT Caseins, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); USES
 (Uses)
 (transparent thermal recording material with protective layer
 containing casein and poly(vinyl alc.)
 acetoacetate to improve antisticking property)
 IT 107-22-2, Glyoxal 140-95-4, Dimethylolurea
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent; transparent thermal
 recording material with protective layer containing casein and
 poly(vinyl alc.) acetoacetate to
 improve antisticking property)
 IT 39290-68-1, Gohsefimer Z 200
 RL: DEV (Device component use); USES (Uses)
 (transparent thermal recording material with protective layer
 containing casein and poly(vinyl alc.)
 acetoacetate to improve antisticking property)

L73 ANSWER 4 OF 5 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1992:642777 HCPLUS
 DOCUMENT NUMBER: 117:242777
 ORIGINAL REFERENCE NO.: 117:41832h, 41833a

TITLE: Thermal recording materials with poly(vinyl alcohol)-based protective layer
 INVENTOR(S): Ueda, Shuichi; Fukui, Satoshi
 PATENT ASSIGNEE(S): Oji Paper Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04131275	A	19920501	JP 1990-254803	199009 25
<--				
PRIORITY APPLN. INFO.:		JP 1990-254803		
199009 25				
<--				

AB The title materials, comprising a support with coatings of a heat-sensitive layer containing ≥ 1 basic dye and a color-developer and a protective layer based on poly(vinyl alc.) (I) and/or its modified product, contain 3-30 weight% of an ammonium salt of styrene-maleic anhydride copolymer (II) esterified with iso-Bu alc. or Bu cellosolve ($\geq 60\%$ esterification degree) and a crosslinking agent in the protective layer. The materials show good offset-printability and antisticking properties. Thus, a paper support was coated with a composition containing 3-di-n-butylamino-6-methyl-7-phenylaminofluoran and 4,4'-isopropylidenediphenol and with a protective layer containing I, ammonium salt of isobutyl-esterified II (esterification degree 70%), glyoxal, and a pigment to give a thermal recording paper.
 IT 107-22-2, Glyoxal
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent, thermal recording material protective layer using)
 RN 107-22-2 HCPLUS
 CN Ethanodial (CA INDEX NAME)

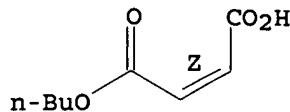
O—CH—CH—O

IT 25215-62-7D, Butyl maleate-styrene copolymer, ammonium salts
 RL: USES (Uses)
 (thermal recording material protective layer using)
 RN 25215-62-7 HCPLUS
 CN 2-Butenedioic acid (2Z)-, 1-butyl ester, polymer with ethenylbenzene (CA INDEX NAME)

CM 1

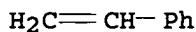
CRN 925-21-3
CMF C8 H12 O4

Double bond geometry as shown.



CM 2

CRN 100-42-5
CMF C8 H8



IT 9002-89-5, Poly(vinyl alcohol)
RL: USES (Uses)
(thermal recording material protective layer using, NH 17Q)
RN 9002-89-5 HCPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O



IC ICM B41M005-26
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
ST thermal recording material protective layer; **polyvinyl**
alc thermal recording material; maleate styrene copolymer
thermal recording
IT Printing, nonimpact
(thermal, materials for, with **poly(vinyl**
alc.)-based protective layer)
IT 107-22-2, Glyoxal
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agent, thermal recording
material protective layer using)
IT 25215-62-7D, Butyl maleate-styrene copolymer, ammonium salts
50658-25-8D, ammonium salts 144482-94-0D, Isobutyl maleate-styrene
copolymer, ammonium salts
RL: USES (Uses)
(thermal recording material protective layer using)
IT 9002-89-5, Poly(vinyl alcohol)
RL: USES (Uses)
(thermal recording material protective layer using, NH 17Q)

L73 ANSWER 5 OF 5 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1983:559434 HCPLUS

DOCUMENT NUMBER: 99:159434

ORIGINAL REFERENCE NO.: 99:24455a,24458a

TITLE: Poly(vinyl alcohol)

PATENT ASSIGNEE(S):) composition with latent water-resistance
 Nippon Synthetic Chemical Industry Co., Ltd.,
 Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

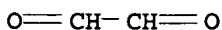
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58059263	A	19830408	JP 1981-157778	198110 02
JP 60056755	B	19851211		<--
PRIORITY APPLN. INFO.:			JP 1981-157778	198110 02

AB A polymer composition which can give a water-resistant sheet, molding, and adhesive layer, etc., comprises (1) a water-soluble (or water-dispersible) polymer, (2) a water-soluble polymer having an acetoacetate ester group, and (3) a **crosslinking agent** reactive toward the acetoacetate in 2. Thus, 100 parts solution of poly(vinyl alc.) (I) [9002-89-5] (d.p. 1800, saponification degree 88%) 4, I acetoacetate [39290-68-1] (0.8 mol.% acetoacetylated) 6, and water 90% was mixed with 1.25 parts 40% aqueous glyoxal [107-22-2]. The mixture was cast, and left to give a 100- μ film, which was kept 8 days at 20° and 65% relative humidity. The film was immersed 1 h in water at 25° with stirring to swell 5:1 and loose 4.3% weight (dry), whereas a film prepared from the I alone was dissolved completely.

IT 107-22-2
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agents, for poly(vinyl alc.) containing acetoacetate ester groups, for water-resistance improvement)

RN 107-22-2 HCPLUS

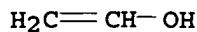
CN Ethanodial (CA INDEX NAME)



IT 9002-89-5
 RL: USES (Uses)
 (films, acetoacetylated poly(vinyl alc.)-containing, crosslinked, water-resistant)
 RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IT 39290-68-1

RL: USES (Uses)

(poly(vinyl alc.) films containing,
crosslinked, water-resistant)

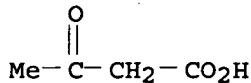
RN 39290-68-1 HCPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

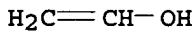
CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O



IC C08L101-06; C08L101-00

CC 37-6 (Plastics Manufacture and Processing)

ST polyvinyl alc film water resistance; glyoxal
crosslinking agent; acetoacetylated
polyvinyl alc crosslinking agent

IT 107-22-2

RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents, for poly(vinyl
alc.) containing acetoacetate ester groups,
for water-resistance improvement)

IT 9002-89-5

RL: USES (Uses)
(films, acetoacetylated poly(vinyl
alc.)-containing, crosslinked, water-resistant)

IT 39290-68-1

RL: USES (Uses)
(poly(vinyl alc.) films containing,
crosslinked, water-resistant)

=> d 174 ibib abs hitstr hitind 1-16

L74 ANSWER 1 OF 16 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:823307 HCPLUS
 DOCUMENT NUMBER: 143:235397
 TITLE: Intravascular delivery of nucleic acid
 INVENTOR(S): Wolff, Jon A.; Budker, Vladimir G.; Hagstrom, James E.; Hegge, Julia
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 46 pp., Cont.-in-part of U.S. Ser. No. 855,175.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 49
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050182013	A1	20050818	US 2004-8856	200412 10
US 7015040	B2	20060321	<--	
US 20010019723	A1	20010906	US 1999-450315	199911 29
US 6379966	B2	20020430	<--	
AT 342736	T	20061115	AT 2000-976999	200011 06
ES 2269199	T3	20070401	ES 2000-976999	200011 06
US 20030166280	A1	20030904	US 2002-85378	200202 27
US 6897068	B2	20050524	<--	
US 20040242528	A1	20041202	US 2004-855175	200405 27
US 20060093584	A1	20060504	US 2005-268276	200511 07
PRIORITY APPLN. INFO.:			US 1999-121730P	P 199902 26
			US 1999-146564P	P 199907 30
			US 1999-163719P	P 199911 05

<--	US 1999-450315	A2	199911 29
<--	US 2000-707000	A2	200011 06
<--	US 2002-85378	A2	200202 27
<--	US 2003-473654P	P	200305 28
<--	US 2003-500211P	P	200309 04
<--	US 2004-855175	A2	200405 27
	US 2004-8856	A3	200412 10

AB Disclosed is a process for providing for expression of an exogenous nucleic acid in an extravascular parenchymal cell of a mammal. The nucleic acid is inserted into a vessel of a mammal and the permeability of the vessel is increased. Increasing permeability of the vessel allows delivery of the nucleic acid to an extravascular parenchymal cell.

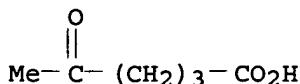
IT 111-30-8, Glutaric dialdehyde 3128-06-1,
4-Acetylbutyric acid 9002-89-5, Polyvinylalcohol
RL: RCT (Reactant); RACT (Reactant or reagent)
(intravascular delivery of nucleic acid)

RN 111-30-8 HCAPLUS

CN Pentanodial (CA INDEX NAME)

OHC—(CH₂)₃—CHO

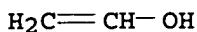
RN 3128-06-1 HCAPLUS
CN Hexanoic acid, 5-oxo- (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IC ICM A61K048-00
 ICS C12N015-85; C12N015-88
 INCL 514044000; X43-545.5; X43-545.8
 CC 63-6 (Pharmaceuticals)
 IT 56-81-5, Glycerol, reactions 56-89-3, L-Cystine, reactions
 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 75-09-2,
 Dichloromethane, reactions 108-30-5, Succinic anhydride, reactions
 111-30-8, Glutaric dialdehyde 112-57-2,
 Tetraethylpentamine 121-44-8, Triethylamine, reactions
 616-02-4, Citraconic anhydride 3128-06-1, 4-Acetylbutyric
 acid 4067-16-7, Pentaethylenehexamine 4097-89-6,
 Tris(2-aminoethyl)amine 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-
 propanediamine 6066-82-6, N-Hydroxysuccinimide 6192-52-5,
 p-Toluenesulfonic acid monohydrate 7087-68-5,
 Diisopropylethylamine 7209-38-3, 1,4-Bis(3-aminopropyl)piperazine
 9002-89-5, Polyvinylalcohol 25619-78-7,
 Poly-L-tyrosine 25667-16-7 38000-06-5, Poly-L-lysine
 52328-05-9, O-Methylisourea hydrogen sulfate 58632-95-4,
 2-(tert-Butoxycarbonyloxyimino)-2-phenylacetonitrile 59269-51-1,
 Polyvinylphenol 289888-08-0, 5,5'-Dithiobis(2-nitrobenzoic
 acid)-Pentaethylenehexamine Copolymer 289888-09-1,
 5,5'-Dithiobis(2-nitrobenzoic acid)Tetraethylpentamine Copolymer
 289888-10-4, 5,5'-Dithiobis(2-nitrobenzoic acid)-
 TetraethylpentamineTris(2-aminoethyl)amine Copolymer
 289888-12-6, 5,5'-Dithiobis(2-nitrobenzoic acid)-N,N'-Bis(2-
 aminoethyl)-1,3-propanediamineTris(2-aminoethyl)amine Copolymer
 289888-18-2, 1,4-Bis(3-aminopropyl)piperazine Glutaric
 Dialdehyde Copolymer

RL: RCT (Reactant); RACT (Reactant or reagent)
 (intravascular delivery of nucleic acid)

IT 616-02-4DP, Citraconic anhydride, reaction product with
 polyvinylphenol 766-39-2DP, 2,3-Dimethylmaleic anhydride, reaction
 product with poly-L-lysine 25104-18-1DP, Poly-L-lysine, reaction
 product with citraconic anhydride 25619-78-7DP, Poly-L-tyrosine,
 reaction product with citraconic anhydride 25667-16-7DP, reaction
 product with citraconic anhydride 26742-84-7DP, Polyvinyl phenyl
 ketone, reaction products with glycerol and succinic
 anhydride 38000-06-5DP, Poly-L-lysine, reaction product with
 citraconic anhydride 59269-51-1DP, Polyvinylphenol, reaction
 product with citraconic anhydride

RL: SPN (Synthetic preparation); PREP (Preparation)
 (intravascular delivery of nucleic acid)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L74 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:681380 HCAPLUS
 DOCUMENT NUMBER: 141:212745
 TITLE: Delivery of siRNA to cells using polyampholytes
 INVENTOR(S): Trubetskoy, Vladimir S.; Rozema, David B.;
 Monahan, Sean D.; Budker, Vladimir G.; Hagstrom,
 James E.; Wolff, Jon A.

PATENT ASSIGNEE(S) : USA
 SOURCE: U.S. Pat. Appl. Publ., 24 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040162235	A1	20040819	US 2003-368139	200302 18
WO 2004076674	A1	20040910	WO 2003-US12949	200304 28

W: JP				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1620560	A1	20060201	EP 2003-743755	200304 28

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			US 2003-368139	A
				200302 18

		WO 2003-US12949		W
				200304 28

AB A polyampholyte is utilized in a complex with siRNA for purposes of siRNA delivery to a cell. The complex can be formed with an appropriate amount of pos. and/or neg. charge such that the resulting complex can be delivered into a cell in vivo or in vitro. For example, complexes containing siRNA/branched PEI (brPEI) were toxic to mice and provided no inhibition of firefly luciferase activity. SiRNA/brPEI complexes recharged with poly(aspartic acid) (pAsp) were less toxic than siRNA/brPEI complexes, but did not result in siRNA-mediated inhibition of luciferase activity (10-20% inhibition of luciferase expression). However, when siRNA-containing complexes were made using brPEI-pAsp polyampholytes, PEI toxicity was reduced and siRNA was functionally delivered to lung cells. Polyampholyte-mediated delivery of siRNA resulted in the gene-specific inhibition of firefly luciferase expression by 60%.

IT 111-30-8, Glutaric dialdehyde 692-29-5,
 Succinic semialdehyde 9002-89-5,
 Polyvinyl alcohol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of polyampholytes for siRNA delivery to cells)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

RN 692-29-5 HCPLUS
 CN Butanoic acid, 4-oxo- (CA INDEX NAME)

OHC—CH₂—CH₂—CO₂H

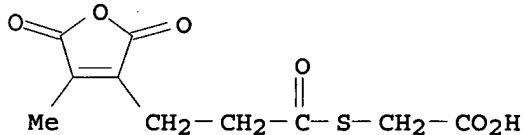
RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

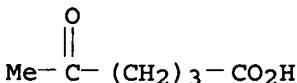
CRN 557-75-5
 CMF C₂ H₄ O

H₂C=CH—OH

IT 627079-21-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation of polyampholytes for siRNA delivery to cells)
 RN 627079-21-4 HCPLUS
 CN Acetic acid, 2-[[3-(2,5-dihydro-4-methyl-2,5-dioxo-3-furanyl)-1-oxopropyl]thio]— (CA INDEX NAME)



IT 3128-06-1DP, 4-Acetylbutyric acid, polyvinyl
 alc. ketal derivs. 9002-89-5DP, dioxolane/succinic
 and acetylbutyric derivs.
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL
 (Biological study); PREP (Preparation); USES (Uses)
 (preparation of polyampholytes for siRNA delivery to cells)
 RN 3128-06-1 HCPLUS
 CN Hexanoic acid, 5-oxo- (CA INDEX NAME)

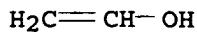


RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

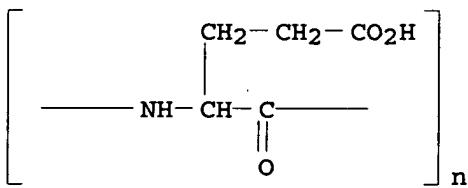
CMF C2 H4 O



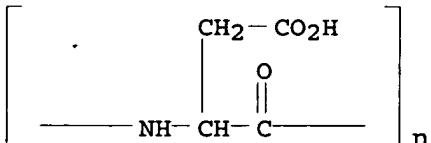
IT 24991-23-9 26063-13-8, Polyaspartic acid

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(preparation of polyampholytes for siRNA delivery to cells)

RN 24991-23-9 HCAPLUS

CN Poly[imino[(1S)-1-(2-carboxyethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX
NAME)

RN 26063-13-8 HCAPLUS

CN Poly[imino[(1S)-1-(carboxymethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX
NAME)

IC ICM A61K048-00

INCL 514008000; 514044000; 424486000

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 3, 35

IT 56-81-5, Glycerol, reactions 68-11-1, Mercaptoacetic acid,
reactions 79-37-8, Oxalyl chloride 110-75-8, 2-Chloroethyl vinyl
ether 111-30-8, Glutaric dialdehyde 112-90-3,
Oleylamine 298-12-4, Glyoxylic acid 515-94-6,
2,3-Diaminopropionic acid 692-29-5, Succinic
semialdehyde 766-39-2, 2,3-Dimethylmaleic anhydride
1009-61-6, 1,4-Diacetylbenzene 1074-82-4, Potassium phthalimide
2163-48-6, Diethylpropyl malonate 3699-66-9, Triethyl-2-
phosphonopropionate 5036-48-6, 1-(3-Aminopropyl)imidazole
6066-82-6, N-Hydroxysuccinimide 7209-38-3, 1,4-Bis(3-
aminopropyl)piperazine 9002-89-5, Polyvinyl

alcohol 10389-65-8 13192-04-6, Dimethyl 2-oxoglutarate

13726-67-5, N-(tert-Butoxycarbonyl)-L-aspartic acid 13822-56-5,
3-Aminopropyltrimethoxysilane 22483-09-6,

Aminoacetaldehyde dimethyl acetal 29022-11-5, Fmoc-glycine

30551-89-4D, Polyallylamine, amino acid conjugate derivs.

37231-28-0, Melittin 60129-38-6 67995-63-5, Pardaxin

149942-14-3 167700-44-9 212626-14-7 289888-16-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of polyampholytes for siRNA delivery to cells)

IT 487-66-1DP, aldehyde/amino acid derivs. 487-66-1P

26742-84-7DP, reaction products with glycerol 39654-47-2P
 67643-67-8P 313048-70-3P 313049-16-0P, MC 216 313049-22-8P, MC
 211 313049-25-1P, MC 225 313049-26-2P, MC 372 313049-27-3P, MC
 373 313058-14-9DP, polyallylamine conjugate derivs. 313271-83-9P
627079-21-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(preparation of polyampholytes for siRNA delivery to cells)

IT 487-66-1DP, reaction products with melittin/pardaxin and amino acid
 polymers 766-39-2DP, conjugates with polymers **3128-06-1DP**
 , 4-Acetylbutyric acid, polyvinyl alc. ketal
 derivs. **9002-89-5DP**, dioxolane/succinic and acetylbutyric
 derivs. **9011-16-9DP**, MC 510, histidine/histamine derivs.
9011-16-9P, MC 486 22483-09-6DP, polyvinyl derivs. 25513-46-6DP,
 aldehyde derivs., reaction products with melittin/pardaxin
31195-43-4P 37231-28-0DP, Melittin, conjugates with polymers
41306-56-3DP, 1H-Imidazole-2-propanamine, polyvinyl derivs.
138134-74-4P 147938-60-1P 149942-14-3DP, polycation derivs.
289888-17-1P, MC 151 313049-45-5P, MC 217 313050-83-8P
313050-85-0DP, reduced 313050-85-0P, MC 208 313050-86-1P, MC 300
313050-87-2P, MC 218 313050-88-3P, MC 226 313050-90-7P, MC 227
313050-93-0P, MC 321 313050-95-2P, MC 322 313050-96-3P, MC 229
313050-98-5P, MC 323 313051-09-1P, MC 325 313051-18-2P, MC 326
313051-28-4P, MC 330 313051-29-5P, MC 331 313051-30-8P, MC 312
313051-31-9P, MC 332 313051-32-0P, MC 340 313051-33-1P, MC 347
313051-34-2P, MC 339 313051-35-3P, MC 346 313051-36-4P, MC 352
313051-37-5P, MC 357 313058-18-3P 313058-19-4P, MC 324
371246-56-9P 371246-66-1P 618106-39-1P, MC 222 618106-46-0P,
 MC 369 618107-18-9P, MC 221 618114-23-1DP, succinic
 semialdehyde derivs. 618114-23-1P, MC 196 639070-47-6P,
DW 291 741284-09-3P 741284-15-1P, DW 163 741284-19-5P
741284-21-9P 742087-16-7P, MC 301 (polyampholyte) 742087-90-7P,
 MC 358 742088-23-9P, MC 366 742088-24-0P, MC 367 742088-26-2P,
 MC 370 742088-28-4P, MC 360 742091-41-4P, DW 297 742091-42-5P,
 DW 301 (polymer)

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL
 (Biological study); PREP (Preparation); USES (Uses)

(preparation of polyampholytes for siRNA delivery to cells)

IT 9002-98-6, PEI 9002-98-6D, PEI, succinylated 9003-01-4,
 Polyacrylic acid 9004-61-9, Hyaluronic acid 9005-49-6, Heparin,
 biological studies 9042-14-2, Dextran sulfate 24991-23-9
 25087-26-7, Polymethacrylic acid 25104-18-1, Poly(L-lysine)
 25513-46-6, Polyglutamic acid 25608-40-6, Polyaspartic acid
26063-13-8, Polyaspartic acid 38000-06-5, Poly(L-lysine)
 38000-06-5D, succinylated, reactions with methylmaleic anhydride and
 peptides

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (preparation of polyampholytes for siRNA delivery to cells)

L74 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:466800 HCAPLUS

DOCUMENT NUMBER: 141:31131

TITLE: Thermal printing material with layer containing
 poly(vinyl alcohol)
 derivative

INVENTOR(S): Ono, Hiroyuki; Shibuya, Mitsuo

PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,
 Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004160862	A	20040610	JP 2002-330255	200211 14
PRIORITY APPLN. INFO.:				JP 2002-330255
				200211 14

AB The material has a layer containing (A) poly(vinyl alc.) having aldehyde group on the side chain and (B) water-soluble resin having active H group. The material shows good water resistance and antisticking property.

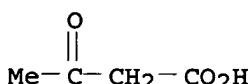
IT 39290-68-1P, Poly(vinyl alcohol)
) acetoacetate
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (thermal printing material with layer containing poly(vinyl alc.) derivative)

RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
 CMF C4 H6 O3

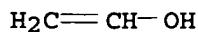


CM 2

CRN 9002-89-5
 CMF (C2 H4 O)x
 CCI PMS

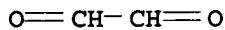
CM 3

CRN 557-75-5
 CMF C2 H4 O



IT 107-22-2, Glyoxal
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (waterproofing agent; thermal printing material with layer containing

poly(vinyl alc.) derivative)
 RN 107-22-2 HCPLUS
 CN Ethanedial (CA INDEX NAME)



IC ICM B41M005-26
 CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST thermal printing material polyvinyl alc aldehyde; water soluble resin layer thermal printing material
 IT Thermal printing materials
 Waterproofing agents
 (thermal printing material with layer containing poly(vinyl alc.) derivative)
 IT 26838-26-6DP, Allylidene diacetate-vinyl acetate copolymer, saponified
 27435-32-1DP, Diacetoneacrylamide-vinyl acetate copolymer, saponified
 39290-68-1P, Poly(vinyl alcohol)
) acetoacetate 187160-36-7DP, Thioacetic acid-vinyl acetate telomer, saponified
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses).
 (thermal printing material with layer containing poly(vinyl alc.) derivative)
 IT 29792-49-2, PVAM 0595B
 RL: TEM (Technical or engineered material use); USES (Uses)
 (thermal printing material with layer containing poly(vinyl alc.) derivative)
 IT 107-22-2, Glyoxal
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (waterproofing agent; thermal printing material with layer containing poly(vinyl alc.) derivative)

L74 ANSWER 4 OF 16 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:452925 HCPLUS
 DOCUMENT NUMBER: 141:17570
 TITLE: Intravascular delivery of nonviral nucleic acid
 INVENTOR(S): Hagstrom, James E.; Wolff, Jon A.; Monahan, Sean D.; Rozema, David B.; Budker, Vladimir G.; Slattum, Paul M.; Lewis, David L.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 35 pp., Cont.-in-part of U.S. Ser. No. 447,966.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 49
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20040106567	A1	20040603	US 2003-609938	200306 30

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US 20010008882 A1 20010719 US 1999-391260 199909
07

US 20010004636 A1 20010621 US 1999-447966 199911
23

US 6627616 B2 20030930
WO 2005009476 A1 20050203 WO 2003-US25737 200308
18

W: JP

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR

EP 1667728 A1 20060614 EP 2003-810873 200308
18

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK

PRIORITY APPLN. INFO.: US 1999-391260 A2 199909
07

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US 1999-447966 A2 199911
23

<--
US 1995-571536 A 199512
13

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US 1997-975573 A1 199711
21

<--
US 2003-609938 A 200306
30

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WO 2003-US25737 W 200308
18

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AB The process comprises designing a polynucleotide, such as an siRNA, for transfection. The polynucleotide is inserted into a mammalian vessel such as an artery. Prior to insertion, subsequent to insertion, or concurrent with insertion, volume in the vessel is increased allowing the polynucleotide delivery to the parenchymal cell. In one preferred embodiment, a process is described for delivering a polynucleotide into a parenchymal cell of a mammal, comprising making a polynucleotide such as a nucleic acid, then inserting the polynucleotide into a mammalian vessel (e.g. a blood vessel) and increasing the permeability of the vessel, finally delivering the polynucleotide to the parenchymal cell thereby altering endogenous properties of the cell. Increasing the permeability of the vessel consists of increasing pressure against vessel walls. Increasing the pressure consists of increasing a volume

of fluid within the vessel. Increasing the volume consists of inserting the polynucleotide in a solution into the vessel wherein the solution contains a compound which complexes with the polynucleotide. Preparation of polymers (e.g. L-cystine-1,4-bis(3-aminopropyl)piperazine copolymer) complexable with polynucleotides is also included.

IT 9002-89-5DP, acetylbutyric ketal derivs.

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(intravascular delivery of nonviral nucleic acid)

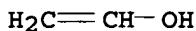
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

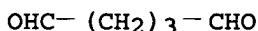


IT 111-30-8, Glutaric dialdehyde 3128-06-1,
4-Acetylbutyric acid 9002-89-5, Polyvinyl
alcohol

RL: RCT (Reactant); RACT (Reactant or reagent)
(intravascular delivery of nonviral nucleic acid)

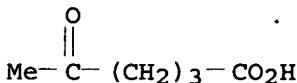
RN 111-30-8 HCPLUS

CN Pentanodial (CA INDEX NAME)



RN 3128-06-1 HCPLUS

CN Hexanoic acid, 5-oxo- (CA INDEX NAME)



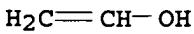
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IC ICM A61K048-00

INCL 514044000

CC 1-1 (Pharmacology)

Section cross-reference(s): 35, 63

IT 9002-89-5DP, acetylbutyric ketal derivs. 25667-16-7DP,
citraconyl derivs. 38000-06-5DP, citraconyl/methylmaleic derivs.

289888-18-2P 313050-91-8P 680571-12-4P
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (intravascular delivery of nonviral nucleic acid)

IT 56-81-5, Glycerol, reactions 56-89-3, L-Cystine, reactions
 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 105-83-9,
 3,3'-Diamino-N-methyldipropylamine 108-30-5, Succinic anhydride,
 reactions 109-78-4, 3-Hydroxypropionitrile 111-30-8,
 Glutaric dialdehyde 112-57-2, Tetraethylpentamine
 616-02-4, Citraconic anhydride 766-39-2, 2,3-Dimethylmaleic
 anhydride 3128-06-1, 4-Acetylbutyric acid 4067-16-7,
 Pentaethylenehexamine 4097-89-6, Tris(2-aminoethyl)amine
 4741-99-5 6066-82-6, N-Hydroxysuccinimide 7209-38-3,
 1,4-Bis(3-aminopropyl)piperazine 9002-89-5,
 Polyvinyl alcohol 24424-99-5, Boc anhydride
 25619-78-7, Poly-L-tyrosine 25667-16-7 26742-84-7, Polyvinyl
 phenyl ketone 52328-05-9, O-Methylisourea hydrogen
 sulfate 58632-95-4 59269-51-1, Polyvinylphenol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (intravascular delivery of nonviral nucleic acid)

L74 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:100662 HCAPLUS
 DOCUMENT NUMBER: 140:160084
 TITLE: Biochips for characterizing biological processes
 INVENTOR(S): Kreimer, David I.; Nufert, Thomas H.; Ginzburg,
 Lev; Yevin, Oleg A.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 71 pp., Cont.-in-part of
 U.S. Ser. No. 925,189.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 9
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20040023293	A1	20040205	US 2002-294385	200211 14
US 20010053521	A1	20011220	US 2001-815909	200103 23
US 20020132371	A1	20020919	US 2001-925189	200108 08
WO 2002077558	A2	20021003	WO 2002-US8858	200203 22
WO 2002077558	A3	20071122	-----	-----
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,			

NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
 TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,
 CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,
 SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG, AP, EA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, EP,
 OA

AU 2002255883	A1	20021008	AU 2002-255883	200203 22
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TW 530146	B	20030501	TW 2002-91105672	200203 22
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US 20030180720	A1	20030925	US 2003-364160	200302 11
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PRIORITY APPLN. INFO.:			US 1999-156195P	P 199909 27
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			US 2001-815828	A 200103 23
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	200202
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WO 2002-US8858	W
	200203
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US 2002-294385	A2
	200211
	14
	<--
US 2002-298725	A2
	200211
	18

AB This invention includes biochips for anal. of a variety of mols., cell components and cells. Embodiments of this invention include devices and methods for the parallel and/or nearly parallel processing of biol. analytes. Biochips can comprise a substrate, Raman signal-enhancing structures, and receptors selective and/or specific for the analyte(s) to be assayed. Biochips can be read using a Raman reader and can provide for rapid, sensitive, direct assays for physiol. and/or pathophysiol. conditions of interest. Gold-coated quartz slides with silver fractal aggregates as enhancing agents and immobilized reduced glutathione as receptor were used to detect glutathione S-transferase by Raman spectroscopy.

IT 541-50-4, Acetoacetic acid, analysis 542-78-9,

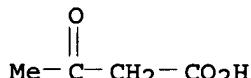
Malondialdehyde

RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)

(analyte; biochips having analyte-specific receptors and enhancing particle structures on substrates for characterizing biol. processes)

RN 541-50-4 HCPLUS

CN Butanoic acid, 3-oxo- (CA INDEX NAME)



RN 542-78-9 HCPLUS

CN Propanedial (9CI) (CA INDEX NAME)



IT 9002-89-5, Poly(vinyl alcohol)

RL: NUU (Other use, unclassified); USES (Uses)

(in preparation of fractal silver aggregates; biochips having analyte-specific receptors and enhancing particle structures on substrates for characterizing biol. processes)

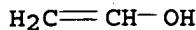
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IC ICM G01N033-53
 ICS G01N033-574; C12M001-34
 INCL 435007100; 435007230; 435287200
 CC 9-1 (Biochemical Methods)
 IT 50-21-5, Lactic acid, analysis 50-67-9, Serotonin, analysis
 50-99-7, D-Glucose, analysis 53-57-6, NADPH 53-59-8, NADP+
 53-84-9, NAD+ 56-65-5, 5'-ATP, analysis 56-73-5, Glucose
 6-phosphate 57-00-1, Creatine 57-03-4, Glycerol 3-phosphate
 57-60-3, Pyruvate, analysis 58-64-0, 5'-ADP, analysis 58-68-4,
 NADH 60-92-4, CAMP 61-19-8, AMP, analysis 63-39-8, UTP
 65-47-4, CTP 67-07-2, Creatine phosphate 72-89-9, Acetyl Co-A
 86-01-1, GTP 108-24-7, Acetyl acetate 113-21-3, Lactate,
 analysis 138-08-9, Phosphoenolpyruvic acid 300-85-6 365-08-2,
 DTTP 541-50-4, Acetoacetic acid, analysis 542-78-9
 , Malondialdehyde 590-54-5, Acetyl phosphate
 1910-41-4, FADH 1927-31-7, DATP 1981-49-3, 1,3-
 Diphosphoglycerate 2056-98-6, DCTP 2564-35-4, DGTP 9001-05-2,
 Catalase 9001-12-1, MMP-1 9001-48-3, Glutathione reductase
 9001-68-7, NADPH oxidoreductase 9001-90-5, Plasmin 9007-43-6,
 Cytochrome-C, analysis 9013-66-5, Glutathione peroxidase
 9025-26-7, Cathepsin-D 9031-37-2, Ceruloplasmin 9035-34-1,
 Cytochrome-A 9035-37-4, Cytochrome b 9035-68-1, Proinsulin
 9047-22-7, Cathepsin B 9054-89-1, Superoxide dismutase
 9059-22-7, Heme oxygenase 27025-41-8, Oxidized glutathione
 39287-99-5, Pro MMP-1 39391-18-9, Prostaglandin H synthetase
 60616-82-2, Cathepsin-L 81669-70-7, Metalloproteinase
 124861-55-8, TIMP-2 125978-95-2, Nitric oxide synthetase
 127464-60-2, Vascular endothelial growth factor 140208-24-8,
 TIMP-1 145809-21-8, TIMP-3 146480-35-5, MMP 2 146480-36-6, MMP
 9 148969-98-6, Pro MMP-2 152787-66-1, Pro MMP-9 169592-56-7,
 Caspase-3 176742-42-0, Pro-cathepsins 182372-14-1, Caspase-2
 214894-56-1 329900-75-6, Cyclooxygenase 2 329967-85-3,
 Cyclooxygenase 1 570400-25-8
 RL: ANT (Analyte); BSU (Biological study, unclassified); ANST
 (Analytical study); BIOL (Biological study)
 (analyte; biochips having analyte-specific receptors and
 enhancing particle structures on substrates for characterizing
 biol. processes)
 IT 68-04-2, Sodium citrate 7647-14-5, Sodium chloride, uses
 9002-89-5, Poly(vinyl alcohol)
 16940-66-2
 RL: NUU (Other use, unclassified); USES (Uses)
 (in preparation of fractal silver aggregates; biochips having
 analyte-specific receptors and enhancing particle structures on
 substrates for characterizing biol. processes)

L74 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:453489 HCAPLUS
 DOCUMENT NUMBER: 135:41003
 TITLE: Intravascular delivery of non-viral nucleic acid
 INVENTOR(S): Monahan, Sean D.; Wolf, Jon A.; Slattum, Paul
 M.; Hagstrom, James E.; Budker, Vladimir G.;
 Rozema, David B.
 PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 19 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20010004636 A1		20010621US	1999-447966	199911 23

AB Disclosed is a process for transfecting genetic material into a mammalian cell to alter endogenous properties of the cell. The process comprises designing a polynucleotide for transfection. Then the polynucleotide is inserted into a mammalian vessel such as a tail vein or artery. Prior to insertion, subsequent to insertion, or concurrent with insertion the permeability of the vessel is increased thereby the genetic material is delivered to the parenchymal cell altering endogenous properties of the cell. The naked polynucleotide is complexed prior to delivery with amphipathic compds., polymers, or other nonviral vectors. Syntheses are described for the preparation of several activated disulfide-containing co-monomers and of pH-cleavable polymers for intracellular compartment release.

IT 9002-89-5DP, Polyvinyl alcohol, reaction products with 5-oxohexanoic acid
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);
 USES (Uses)
 (intravascular delivery of non-viral nucleic acid)

RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

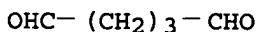
CM 1

CRN 557-75-5
 CMF C2 H4 O

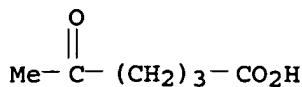


IT 111-30-8, Pentanedral 3128-06-1, 4-Acetylbutyric acid 9002-89-5, Polyvinyl alcohol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (intravascular delivery of non-viral nucleic acid)

RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



RN 3128-06-1 HCPLUS
 CN Hexanoic acid, 5-oxo- (CA INDEX NAME)



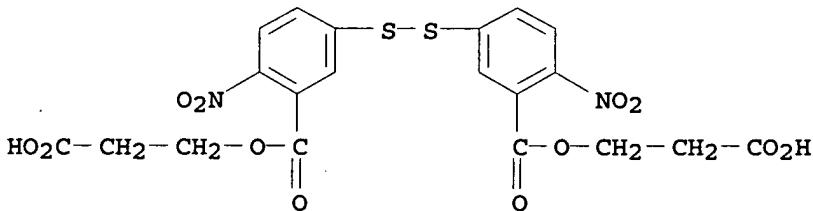
RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IT 289888-04-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (intravascular delivery of non-viral nucleic acid)
 RN 289888-04-6 HCPLUS
 CN Benzoic acid, 3,3'-dithiobis[6-nitro-, bis(2-carboxyethyl) ester
 (9CI) (CA INDEX NAME)



IC ICM A61K031-70
 ICS A01N043-04; C07H021-04
 INCL 514044000
 CC 1-1 (Pharmacology)
 Section cross-reference(s): 3
 IT 9002-89-5DP, Polyvinyl alcohol, reaction
 products with 5-oxohexanoic acid 25104-18-1DP, Poly(L-lysine),
 reaction products with citraconic anhydride or dimethylmaleic
 anhydride 25619-78-7DP, Poly(L-tyrosine), reaction products with
 citraconic anhydride 25667-16-7DP, reaction products with
 citraconic anhydride 26742-84-7DP, Poly(vinyl phenyl
 ketone), reaction products with glycerol or with glycerol
 and succinic anhydride 38000-06-5DP, Poly(L-lysine), reaction
 products with citraconic anhydride or dimethylmaleic anhydride
 59269-51-1DP, Polyvinylphenol, reaction products with citraconic
 anhydride 209517-47-5P 289888-07-9P 289888-08-0P
 289888-09-1P 289888-10-4P 289888-11-5P 289888-12-6P
 289888-14-8P 289888-15-9P 289888-17-1P 289888-18-2P
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);
 THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);
 USES (Uses)
 (intravascular delivery of non-viral nucleic acid)
 IT 56-81-5, 1,2,3-Propanetriol, reactions 56-89-3, L-Cystine,

reactions 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 105-83-9
 109-78-4, 3-Hydroxypropionitrile 111-30-8, Pentanedral
 112-57-2, Tetraethylenepentamine 616-02-4, Citraconic anhydride
 766-39-2, 2,3-Dimethylmaleic anhydride 3128-06-1,
 4-Acetylbutyric acid 4067-16-7, Pentaethylenehexamine 4097-89-6,
 Tris(2-aminoethyl)amine 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-
 propanediamine 6066-82-6, N-Hydroxysuccinimide 7209-38-3,
 1,4-Bis(3-aminopropyl)piperazine 9002-89-5,
 Polyvinyl alcohol 10389-65-8 13551-09-2
 25104-18-1, Poly(L-lysine) 25619-78-7, Poly(L-tyrosine)
 25667-16-7 26742-84-7, Poly(vinyl phenyl ketone)
 38000-06-5, Poly(L-lysine) 52328-05-9, O-Methylisourea hydrogen
 sulfate 58632-95-4, 2-tert-Butoxycarbonyloxyimino)-2-
 phenylacetonitrile 59269-51-1, Polyvinylphenol 289888-16-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (intravascular delivery of non-viral nucleic acid)

IT 60129-38-6P 109970-44-7P 210292-23-2P 289888-04-6P
 289888-06-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (intravascular delivery of non-viral nucleic acid)

L74 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:143697 HCAPLUS

DOCUMENT NUMBER: 134:180034

TITLE: Water-thinned compositions with good miscibility
 and solvent-resistant aqueous coatings and those
 for ink-jet printing paper using the
 compositions

INVENTOR(S): Tanimoto, Seiji

PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001055479	A	20010227	JP 1999-233674	199908 20
JP 4053192	B2	20080227	JP 1999-233674	199908 20

AB The coatings for ink-jet printing receptor comprise water-thinned
 compns. composed of (A) aqueous polyurethane emulsions prepared by
 reaction of NCO-having urethane prepolymers with primary OH- and/or
 acetoacetyl-having vinyl alc. polymers and amino- or OH-having
 low-mol.-weight compds., (B) vinyl alc. polymers, and (C)
 polyamide-epichlorohydrin resins, epoxy compds., aldehydes
 , and/or isocyanates as waterproofing agents. Thus, a composition containing
 (A) 50 parts polyurethane emulsion [prepared from urethane prepolymers
 [obtained by reaction of adipic acid-3-methyl-1,5-pentanediol
 copolymer diol, IPDI, and 2,2-bis(hydroxymethyl)propionic acid],

amino-containing vinyl alc. polymer (obtained by reaction of allyl glycidyl ether-vinyl acetate copolymer with 2-aminothiophenol and saponification), diethylenetriamine, and isophorone diamine], (B) 100 parts amino-containing vinyl alc. polymer, and (C) 10 parts Epiol E 100 showed good storage stability, and water and solvent resistance when applied on ink-jet printing sheets.

IT 326603-70-7P, Poly(vinyl alcohol

) acetoacetyl ester, polymer with adipic acid, 3-methyl-1,5-pentanediol, IPDI, 2,2-bis(hydroxymethyl)propionic acid and diethylenetriamine

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(water-thinned comps. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

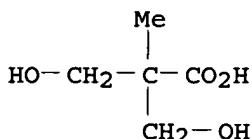
RN 326603-70-7 HCPLUS

CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, ethenol homopolymer 3-oxobutanoate, 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 4767-03-7

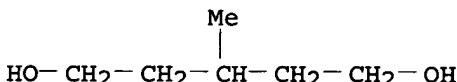
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CM 2

CRN 4457-71-0

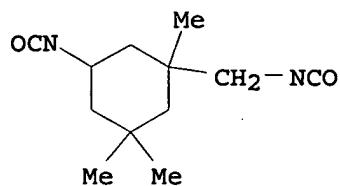
CMF C6 H14 O2



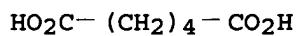
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CMF C12 H18 N2 O2



CM 4

CRN 124-04-9
CMF C6 H10 O4

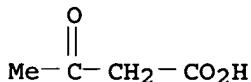
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CRN 111-40-0
CMF C4 H13 N3

CM 6

CRN 39290-68-1
CMF C4 H6 O3 . x (C2 H4 O)x

CM 7

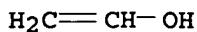
CRN 541-50-4
CMF C4 H6 O3

CM 8

CRN 9002-89-5
CMF (C2 H4 O)x
CCI PMS

CM 9

CRN 557-75-5
CMF C2 H4 O



IT 111-30-8, Glutaraldehyde

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



IT 9002-89-5D, Poly(vinyl alcohol)

), amino-, acetoacetyl-, or ethylene-containing

RL: TEM (Technical or engineered material use); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

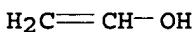
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IC ICM C08L029-04

ICS C08L029-04; C08K005-07; C08L063-00; C08L075-04; C08L077-06; C09D005-02; C09D007-12; C09D129-04; C09D175-12

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 43

IT 60-24-2DP, 2-Mercaptoethanol, reaction products with allyl glycidyl ether-vinyl acetate copolymer, polymers with polyols, polyisocyanates, and polyamines 111-40-0DP, Diethylenetriamine, polymers with vinyl acetate polymers, polyols, polyisocyanates, and polyamines 124-04-9DP, Adipic acid, polymers with vinyl acetate polymers, polyols, polyisocyanates, and polyamines 2855-13-2DP, Isophoronediamine, polymers with vinyl acetate polymers, polyols, polyisocyanates, and polyamines 4098-71-9DP, IPDI, polymers with vinyl acetate polymers, polyols, and polyamines 4457-71-0DP, 3-Methyl-1,5-pentanediol, polymers with adipic acid, vinyl acetate polymers, polyols, polyisocyanates, and polyamines 4767-03-7DP, 2,2-Bis(hydroxymethyl)propionic acid, polymers with vinyl acetate polymers, polyols, polyisocyanates, and polyamines 31048-51-8DP, Allyl glycidyl ether-vinyl acetate copolymer, reaction products with 2-mercaptopethanol, polymers with polyols, polyisocyanates, and polyamines 299179-03-6DP, Allyl glycidyl ether-vinyl acetate-2-aminothiophenol copolymer, saponified, polymers with polyols, polyisocyanates, and polyamines 326603-70-7P, Poly(vinyl alcohol) acetoacetyl ester, polymer with adipic acid, 3-methyl-1,5-pentanediol, IPDI, 2,2-bis(hydroxymethyl)propionic acid and diethylenetriamine

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

IT 111-30-8, Glutaraldehyde 25212-19-5, WS 535
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

IT 9002-89-5D, Poly(vinyl alcohol), amino-, acetoacetyl-, or ethylene-containing
RL: TEM (Technical or engineered material use); USES (Uses)
(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

L74 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:790140 HCAPLUS

DOCUMENT NUMBER: 133:339981

TITLE: Lotionized tissue products containing a pH balance compound for the skin

INVENTOR(S): Luu, Phuong V.; Oriaran, Philips T.; White, David W.; Awofeso, Anthony O.; Schroeder, Gary L.; Fredericks, Richard E.

PATENT ASSIGNEE(S): Fort James Corporation, USA

SOURCE: Eur. Pat. Appl., 7 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

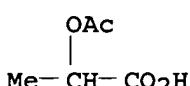
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1050297	A2	20001108	EP 2000-109038	200004 27
EP 1050297	A3	20001115		<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6352700	B1	20020305	US 1999-303660	199905 03
CA 2306594	A1	20001103	CA 2000-2306594	200004 25
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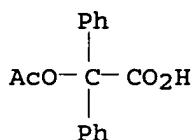
AB A substrate treated with a lotion including a skin pH balancing compound and a base lotion. The pH balancing compound is preferably an organic acid, such as an alpha-hydroxy acid, an alpha-dihydroxy acid, or a beta-hydroxy acid, a combination of an organic acid and a salt of an organic acid, or a buffer combination, such as combinations of citric acid and disodium phosphate, or disodium citrate and sodium hydroxide. The preferred lotion has the effect of maintaining the skin acid mantle while making the treated substrate, preferably

tissue, towel or napkin, optionally wet-strengthened, wipe or nonwoven material, feel smooth, lubricious and nongreasy. The skin care benefits of the lotionized substrate are expressed whether the product is used dry or prewetted with water. A lotion containing C12-15 alkyl benzoate (Finsolv TN) 35, cetearyl alc. (Crodacol CS 50) 63, and glycolic acid 2 % was formulated, and applied on one-ply tissue paper to obtain a lotionized tissue product.

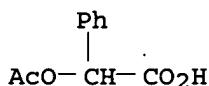
IT 535-17-1, Acetyl lactic acid 3808-00-2, O-Acetyl benzilic acid 5438-68-6, O-Acetyl mandelic acid 13831-30-6, Acetyl glycolic acid
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (lotionized products containing skin pH balancing compds.)
 RN 535-17-1 HCAPLUS
 CN Propanoic acid, 2-(acetyloxy)- (CA INDEX NAME)



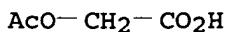
RN 3808-00-2 HCAPLUS
 CN Benzeneacetic acid, α -(acetyloxy)- α -phenyl- (CA INDEX NAME)



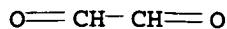
RN 5438-68-6 HCAPLUS
 CN Benzeneacetic acid, α -(acetyloxy)- (CA INDEX NAME)



RN 13831-30-6 HCAPLUS
 CN Acetic acid, 2-(acetyloxy)- (CA INDEX NAME)



IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde
 9002-89-5, Polyvinyl alcohol
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (lotionized web products containing skin pH balancing compds. and wet strength agents)
 RN 107-22-2 HCAPLUS
 CN Ethanodial (CA INDEX NAME)



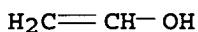
RN 111-30-8 HCAPLUS
 CN Pentanodial (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IC ICM A61K007-50
 CC 62-4 (Essential Oils and Cosmetics)
 Section cross-reference(s): 63
 IT Polymers, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (aldehyde-containing; lotionized web products containing skin
 pH balancing compds. and wet strength agents)
 IT Aminoplasts
 Dialdehydes
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (lotionized web products containing skin pH balancing compds. and wet
 strength agents)
 IT Alcohols, biological studies
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (polyhydric, aldehyde-containing; lotionized web products
 containing skin pH balancing compds. and wet strength agents)
 IT 50-21-5, Lactic acid, biological studies 69-72-7, Salicylic acid,
 biological studies 76-93-7, Benzilic acid, biological studies
 77-92-9, Citric acid, biological studies 79-14-1, Glycolic acid,
 biological studies 87-69-4, Tartaric acid, biological studies
 110-44-1, Sorbic acid 127-17-3, Pyruvic acid, biological studies
 144-33-2, Disodium citrate 526-95-4, Gluconic acid
 535-17-1, Acetyl lactic acid 594-61-6, α -Hydroxy
 isobutyric acid 1310-73-2, Sodium hydroxide, biological studies
 3808-00-2, O-Acetyl benzilic acid 5438-68-6,
 O-Acetyl mandelic acid 6915-15-7, Malic acid 7558-79-4, Disodium
 phosphate 13831-30-6, Acetyl glycolic acid 68936-95-8,
 Glucate SS 72175-39-4, Glucamate SSE-20 74565-11-0, Finsolv TN
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (lotionized products containing skin pH balancing compds.)
 IT 57-13-6D, Urea, derivs., biological studies 106-89-8D,
 Epichlorohydrin, polyamides 107-22-2, Glyoxal
 111-30-8, Glutaraldehyde 9002-89-5,
 Polyvinyl alcohol 9002-98-6 9003-05-8D,

Polyacrylamide, glyoxalated 9003-08-1 9005-25-8D, Starch, derivs., aldehyde-containing cationic starch, biological studies 9011-05-6, Formaldehyde-urea copolymer
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (lotionized web products containing skin pH balancing compds. and wet strength agents)

L74 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2000:608924 HCAPLUS
 DOCUMENT NUMBER: 133:203820
 TITLE: Intravascular delivery of non-viral nucleic acid
 INVENTOR(S): Wolff, Jon A.; Monahan, Sean D.; Hagstrom, James E.; Slattum, Paul M.; Budker, Vladimir G.; Rozema, David B.
 PATENT ASSIGNEE(S): Mirus Corp., USA
 SOURCE: PCT Int. Appl., 38 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 49
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
WO 2000050617	A1	20000831	WO 2000-US4521	200002 22
<--				
W: JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1161547	A1	20011212	EP 2000-911912	200002 22
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRIORITY APPLN. INFO.:			US 1999-121730P	P 199902 26
<--				
			US 1999-146564P	P 199907 30
<--				
			WO 2000-US4521	W 200002 22
<--				

AB Disclosed is a process for transfecting genetic material into a mammalian cell to alter endogenous properties of the cell. The process comprises designing a polynucleotide for transfection. Then the polynucleotide is inserted into a mammalian vessel such as a tail vein or artery. Prior to insertion, subsequent to insertion, or concurrent with insertion the permeability of the vessel is increased thereby the genetic material is delivered to the parenchymal cell altering endogenous properties of the cell. The naked polynucleotide is complexed prior to delivery with amphipathic

compds., polymers, or other nonviral vectors. Syntheses are described for the preparation of several activated disulfide-containing co-monomers and of pH-cleavable polymers for intracellular compartment release.

IT 9002-89-5DP, Polyvinyl alcohol, reaction products with 5-oxohexanoic acid
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);
 USES (Uses)
 (chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

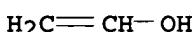
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

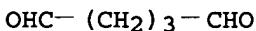
CMF C2 H4 O



IT 111-30-8, Pentanedral 3128-06-1, 4-Acetylbutyric acid 9002-89-5, Polyvinyl alcohol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

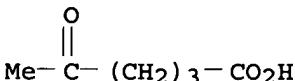
RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



RN 3128-06-1 HCPLUS

CN Hexanoic acid, 5-oxo- (CA INDEX NAME)



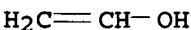
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

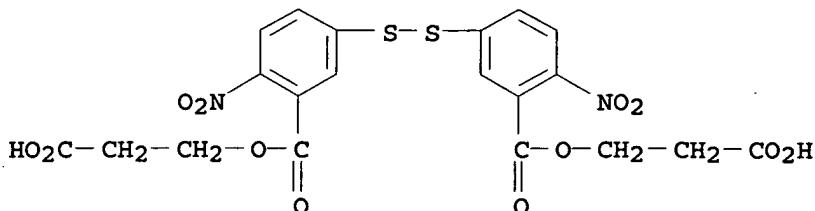
CMF C2 H4 O



IT 289888-04-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (chemical synthesis of polymers for DNA complexation; intravascular

delivery of non-viral nucleic acid)
 RN 289888-04-6 HCAPLUS
 CN Benzoic acid, 3,3'-dithiobis[6-nitro-, bis(2-carboxyethyl) ester
 (9CI) (CA INDEX NAME)



IC ICM C12N015-85
 ICS A61K009-127; A61K048-00; C07H021-04
 CC 3-2 (Biochemical Genetics)
 Section cross-reference(s): 35
 IT 9002-89-5DP, Polyvinyl alcohol, reaction
 products with 5-oxohexanoic acid 25104-18-1DP, Poly(L-lysine),
 reaction products with citraconic anhydride or dimethylmaleic
 anhydride 25619-78-7DP, Poly(L-tyrosine), reaction products with
 citraconic anhydride 25667-16-7DP, reaction products with
 citraconic anhydride 26742-84-7DP, Poly(vinyl phenyl
 ketone), reaction products with glycerol or with glycerol
 and succinic anhydride 38000-06-5DP, Poly(L-lysine), reaction
 products with citraconic anhydride or dimethylmaleic anhydride
 59269-51-1DP, Polyvinylphenol, reaction products with citraconic
 anhydride 209517-47-5P 289888-07-9P 289888-08-0P
 289888-09-1P 289888-10-4P 289888-11-5P 289888-12-6P
 289888-14-8P 289888-15-9P 289888-17-1P 289888-18-2P
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);
 THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);
 USES (Uses)
 (chemical synthesis of polymers for DNA complexation; intravascular
 delivery of non-viral nucleic acid)
 IT 56-81-5, 1,2,3-Propanetriol, reactions 56-89-3, L-Cystine,
 reactions 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 105-83-9
 109-78-4, 3-Hydroxypropionitrile 111-30-8, Pentanedral
 112-57-2, Tetraethylenepentamine 616-02-4, Citraconic anhydride
 766-39-2, 2,3-Dimethylmaleic anhydride 3128-06-1,
 4-Acetylbutyric acid 4067-16-7, Pentaethylenhexamine 4097-89-6,
 Tris(2-aminoethyl)amine 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-
 propanediamine 6066-82-6, N-Hydroxysuccinimide 7209-38-3,
 1,4-Bis(3-aminopropyl)piperazine 9002-89-5,
 Polyvinyl alcohol 10389-65-8 13551-09-2
 25104-18-1, Poly(L-lysine) 25619-78-7, Poly(L-tyrosine).
 25667-16-7 26742-84-7, Poly(vinyl phenyl ketone)
 38000-06-5, Poly(L-lysine) 52328-05-9, O-Methylisourea hydrogen
 sulfate 58632-95-4, 2-tert-Butoxycarbonyloxyimino)-2-
 phenylacetonitrile 59269-51-1, Polyvinylphenol 289888-16-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chemical synthesis of polymers for DNA complexation; intravascular
 delivery of non-viral nucleic acid)
 IT 60129-38-6P 109970-44-7P 210292-23-2P 289888-04-6P
 289888-06-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

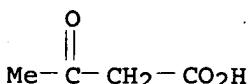
L74 ANSWER 10 OF 16 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1999:183812 HCPLUS
 DOCUMENT NUMBER: 130:259561
 TITLE: Heat-sensitive recording material for overhead projector
 INVENTOR(S): Oga, Kunihiko
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11070736	A	19990316	JP 1997-234405	199708 29
<--				
PRIORITY APPLN. INFO.:		JP 1997-234405		
199708 29				
<--				

AB The heat-sensitive recording material has a heat-sensitive layer and a protective layer on a support, wherein the heat-sensitive layer contains acetoacetylated polyvinyl alc. and the protective layer contains a layer-hardening agent chosen from diol or aldehyde. The recording material provides the excellent light-passing image concentration without detracting printing characteristics and the moisture-resistance of the printed image.
 IT 39290-68-1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Z 100, Z 200, Z 210; heat-sensitive recording material)
 RN 39290-68-1 HCPLUS
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
 CMF C4 H6 O3

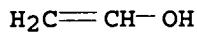


CM 2

CRN 9002-89-5
 CMF (C₂ H₄ O)_x

CCI PMS

CM 3

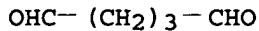
CRN 557-75-5
CMF C2 H4 O

IT 111-30-8, Glutaraldehyde

RL: TEM (Technical or engineered material use); USES (Uses)
(layer-hardening agent for heat-sensitive recording material)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



IC ICM B41M005-26

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)ST heat sensitive recording material overhead projector; layer
hardening agent polyvinyl alc

IT 39290-68-1

RL: TEM (Technical or engineered material use); USES (Uses)
(Z 100, Z 200, Z 210; heat-sensitive recording material)

IT 111-30-8, Glutaraldehyde 32909-97-0

RL: TEM (Technical or engineered material use); USES (Uses)
(layer-hardening agent for heat-sensitive recording material)

L74 ANSWER 11 OF 16 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:110077 HCPLUS

DOCUMENT NUMBER: 124:249168

ORIGINAL REFERENCE NO.: 124:45807a,45810a

TITLE: Fiber-optic sensor with a dye-modified chitosan/
poly(vinyl alcohol)AUTHOR(S): cladding for the determination of organic acids
Kurauchi, Yoshiaki; Ogata, Tohru; Egashira,
Naoyoshi; Ohga, KazuyaCORPORATE SOURCE: Dep. of Applied Chemistry, Oita Univ., Oita,
870-11, JapanSOURCE: Analytical Sciences (1996), 12(1),
55-9PUBLISHER: CODEN: ANSCEN; ISSN: 0910-6340
Japan Society for Analytical Chemistry

DOCUMENT TYPE: Journal

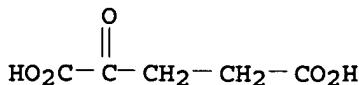
LANGUAGE: English

AB Organic acids in aqueous solution were determined with a fiber-optic sensor
having

a chitosan/poly(vinyl alc.) cladding.

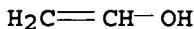
Interference from ethanol could be reduced by controlling the
crosslinking of the cladding with glutaraldehyde and by
modifying the cladding with 5',5''-dibromopyrogallolsulfonphthalein.
The response time for 5 volume/volume% acetic acid was within 1 min and
the relative standard deviation was .apprx.2% for 10 successive
measurements. Coating of the cladding with an amorphous
fluoropolymer increased its durability and removed interferences

from inorg. acids and nonvolatile compds.
 IT 328-50-7
 RL: ANT (Analyte); ANST (Analytical study)
 (fiber-optic sensor with dye-modified chitosan/poly(
 vinyl alc.) cladding for determination of organic acids)
 RN 328-50-7 HCPLUS
 CN Pentanedioic acid, 2-oxo- (CA INDEX NAME)

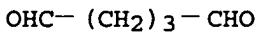


IT 9002-89-5, Poly(vinyl alcohol)
 RL: ARU (Analytical role, unclassified); DEV (Device component use);
 ANST (Analytical study); USES (Uses)
 (fiber-optic sensor with dye-modified chitosan/poly(
 vinyl alc.) cladding for determination of organic acids)
 RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

IT 111-30-8, Glutaraldehyde
 RL: ARU (Analytical role, unclassified); DEV (Device component use);
 ANST (Analytical study); USES (Uses)
 (for preparation of fiber-optic sensor with dye-modified chitosan/
 poly(vinyl alc.) cladding for determination
 of organic acids)
 RN 111-30-8 HCPLUS
 CN Pentanodial (CA INDEX NAME)



CC 80-2 (Organic Analytical Chemistry)
 IT Carboxylic acids, analysis
 RL: ANT (Analyte); ANST (Analytical study)
 (fiber-optic sensor with dye-modified chitosan/poly(
 vinyl alc.) cladding for determination of organic acids)
 IT Sensors
 (fiber-optic, fiber-optic sensor with dye-modified chitosan/
 poly(vinyl alc.) cladding for determination
 of organic acids)
 IT 64-19-7, Acetic acid, analysis 65-85-0, Benzoic acid, analysis
 77-92-9, Citric acid, analysis 79-14-1, HydroxyAcetic acid,
 analysis 88-99-3, Phthalic acid, analysis 103-82-2, Phenylacetic
 acid, analysis 144-62-7, Oxalic acid, analysis 298-12-4
 328-50-7 528-44-9, 1,2,4-Benzenetricarboxylic acid
 759-05-7 1113-60-6
 RL: ANT (Analyte); ANST (Analytical study)

(fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids).

IT 9002-89-5, Poly(vinyl alcohol)
9012-76-4, Chitosan
RL: ARU (Analytical role, unclassified); DEV (Device component use);
ANST (Analytical study); USES (Uses)
(fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids)

IT 111-30-8, Glutaraldehyde
RL: ARU (Analytical role, unclassified); DEV (Device component use);
ANST (Analytical study); USES (Uses)
(for preparation of fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids)

IT 115-41-3, Pyrocatechol violet 149-45-1, Tiron 5182-30-9, Sodium 1,3,6-naphthalenetrisulfonate 16574-43-9 27928-00-3, 8-Hydroxy-1,3,6-pyrenetrisulfonic acid 37626-13-4, Teflon af 84100-31-2
RL: ARU (Analytical role, unclassified); DEV (Device component use);
ANST (Analytical study); USES (Uses)
(in fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids)

L74 ANSWER 12 OF 16 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1995:938552 HCPLUS
DOCUMENT NUMBER: 123:325834
ORIGINAL REFERENCE NO.: 123:58183a,58186a
TITLE: Thermal recording material with acetoacetylated poly(vinyl alcohol)
protective layer
INVENTOR(S): Mando, Ritsuo
PATENT ASSIGNEE(S): Shinoji Seishi Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07232477	A	19950905	JP 1994-28232	199402 25

PRIORITY APPLN. INFO.: JP 1994-28232
199402
25

AB The recording material consists of a substrate successively coated with a thermal recording layer and a protective layer containing a pigment, Al(OH)3, and acetoacetylated poly(vinyl alc.) which is obtained by applying a resin solution of pH 5-8 and drying. The recording layer may contain an aldehyde for good water resistance. The material is useful for labels in point-of-sales system.

IT 39290-68-1, Gohsefimer Z 200
RL: DEV (Device component use); USES (Uses)
(thermal recording material with acetoacetylated poly(

vinyl alc.) protective layer containing Al hydroxide)

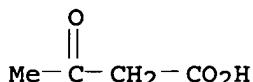
RN 39290-68-1 HCPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

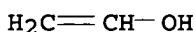
CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O



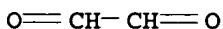
IT 107-22-2, Glyoxal

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(thermal recording material with acetoacetylated poly(vinyl alc.) protective layer containing Al hydroxide)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)



IC ICM B41M005-26

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST thermal recording material protective resin; water resistance aldehyde thermal recording; acetoacetylated polyvinyl alc thermal recording

IT Printing, nonimpact

(thermal, thermal recording material with acetoacetylated poly(vinyl alc.) protective layer containing Al hydroxide)

IT 21645-51-2, Aluminum hydroxide, uses 39290-68-1,

Gohsefimer Z 200

RL: DEV (Device component use); USES (Uses)

(thermal recording material with acetoacetylated poly(vinyl alc.) protective layer containing Al

hydroxide)
 IT 107-22-2, Glyoxal
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (thermal recording material with acetoacetylated poly(vinyl alc.) protective layer containing Al hydroxide)

L74 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1995:261475 HCAPLUS
 DOCUMENT NUMBER: 122:292769
 ORIGINAL REFERENCE NO.: 122:53367a,53370a
 TITLE: Two-component water-resistant fast-curing adhesives
 INVENTOR(S): Shima, Shuji; Kuwako, Nobuteru
 PATENT ASSIGNEE(S): Koyo Sangyo Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

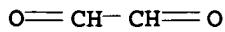
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06256748	A	19940913	JP 1993-72887	199303 09
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JP 1993-72887				
199303 09				
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PRIORITY APPLN. INFO.:

AB The title adhesives, useful for bonding wood, inorg. materials, paper, etc., comprise a component containing isocyanates and aqueous acetoacetyl group-containing polymer solns. and/or emulsions and a component containing aqueous solns. or dispersions containing hydrazines, aldehydes, and/or polyethylenimine as well as glycidylamino group-containing epoxy resins. Applying a solution containing Gohsefimer Z 200, butadiene-styrene copolymer latex, CaCO₃, and diisocyanatodiphenylmethane on a wood surface, applying a solution containing carbodihydrazide, TETRD X, isoocetyl acetate, and a lubricant on another wood surface, and pressing the coated surfaces together for 72 h gave shear strength 200 kg/cm² initially and 85 kg/cm² after contact with boiling H₂O.

IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde
 39290-68-1, Poly(vinyl alcohol)
) acetoacetate
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (in two-component water-resistant adhesives containing glycidylamine resin)

RN 107-22-2 HCAPLUS
 CN Ethanodial (CA INDEX NAME)



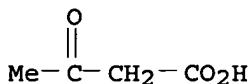
RN 111-30-8 HCAPLUS
 CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

RN 39290-68-1 HCAPLUS
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
 CMF C₄ H₆ O₃



CM 2

CRN 9002-89-5
 CMF (C₂ H₄ O)x
 CCI PMS

CM 3

CRN 557-75-5
 CMF C₂ H₄ O

H₂C=CH—OH

IC ICM C09J175-04
 ICS C09J175-04
 ICA C08G018-58; C08G018-83
 CC 38-3 (Plastics Fabrication and Uses)
 IT 101-68-8 107-22-2, Glyoxal 111-30-8,
 Glutaraldehyde 497-18-7, Carbodihydrazide 1071-93-8,
 Adipic dihydrazide 9002-98-6, Polyethylenimine 39290-68-1
 , Poly(vinyl alcohol) acetoacetate
 163206-51-7, AD 100H 163206-52-8, AD 100R
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical
 or engineered material use); USES (Uses)
 (in two-component water-resistant adhesives containing glycidylamine
 resin)

L74 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1993:23861 HCAPLUS
 DOCUMENT NUMBER: 118:23861
 ORIGINAL REFERENCE NO.: 118:4443a,4446a
 TITLE: Anticorrosive dampening water compositions for
 lithographic printing apparatus
 INVENTOR(S): Matsumoto, Hiroshi; Kunichika, Kenji; Uchida,
 Toshio
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Can. Pat. Appl., 31 pp.

CODEN: CPXXEB

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2053554	A1	19920426	CA 1991-2053554	199110 16
US 5165344	A	19921124	US 1991-780202	199110 22
JP 1990-288244				A 199010 25

PRIORITY APPLN. INFO.: MARPAT 118:23861

AB Title compns. contain hydrophilic film-forming polymers, pH buffers, and benzimidazole derivs. Thus, an aqueous composition containing gum arabic 0.015, Mg(NO₃)₂ 0.3, H₃PO₄ 0.13, monoammonium citrate 0.13, benzimidazole 0.003, and iso-PrOH 10% was adjusted with KOH to pH 5.0-5.5 and showed good anticorrosion on Cu, brass, steel, and (ni-plated) cast iron. Lithog. printing with the use of the composition as dampening water gave a ≥104 smudge-resistant copies and no contamination to the metering rolls.

IT 107-22-2D, Ethanodial, reaction products with cellulose derivs. 9002-89-5, Poly(vinyl alcohol)

RL: USES (Uses)
(dampening water compns., benzimidazole derivative-containing, anticorrosion, for lithog. plates)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)

O—CH—CH—O

RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

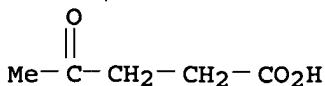
CMF C₂ H₄ OH₂C=CH—OH

IT 123-76-2, Levulinic acid

RL: USES (Uses)

(pH buffering agent, dampening water compns. containing, with benzimidazoles, anticorrosive, for lithog. plates)

RN 123-76-2 HCAPLUS
 CN Pentanoic acid, 4-oxo- (CA INDEX NAME)



IC ICM C23F011-14
 ICS B41N003-08
 CC 42-10 (Coatings, Inks, and Related Products)
 IT 50-00-0, Formaldehyde, uses 51-17-2, Benzimidazole
 91-22-5, Quinoline, uses 95-14-7, 1H-Benzotriazole 110-86-1,
 Pyridine, uses 113-00-8, Guanidine 288-32-4, Imidazole, uses
 288-42-6, Oxazole 583-39-1, 2-Mercaptobenzimidazole 1003-07-2,
 4-Isothiazolin-3-one 4418-26-2, Sodium dehydroacetate
 11084-05-2, Oxazine 37052-78-1, 5-Methoxy-2-mercaptobenzimidazole
 37306-44-8, Triazole 53918-03-9, Sodium 2-mercaptobenzimidazole-5-
 sulfonate
 RL: USES (Uses)
 (dampening water compns. containing, anticorrosive, for lithog.
 plates)
 IT 107-22-2D, Ethanedial, reaction products with cellulose
 derivs. 9000-01-5, Gum arabic 9002-89-5, Poly(
 vinyl alcohol) 9003-01-4, Poly(acrylic acid)
 9003-05-8, Polyacrylamide 9003-39-8, Poly(vinyl pyrrolidone)
 9004-32-4 9004-34-6D, Cellulose, derivs., reaction products with
 glyoxal 9004-42-6, Carboxyethyl cellulose 9004-53-9, Dextrin
 9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl
 cellulose 9004-65-3 9004-67-5, Methyl cellulose 9005-25-8D,
 Starch, carboxymethylated or phosphated or octenylsuccinylated
 9005-32-7D, Alginic acid, salt 9011-07-8, Maleic anhydride-vinyl
 acetate copolymer 9011-16-9, Maleic anhydridemethyl vinyl ether
 copolymer 25322-68-3 50851-57-5, Poly(styrenesulfonic acid)
 RL: USES (Uses)
 (dampening water compns., benzimidazole derivative-containing,
 anticorrosion, for lithog. plates)
 IT 121-57-3, Sulfanilic acid 123-76-2, Levulinic acid
 141-82-2, Propanedioic acid, miscellaneous 144-62-7, Oxalic acid,
 miscellaneous 526-95-4, Gluconic acid 4450-94-6, Monoammonium
 citrate 6915-15-7, Malic acid 7664-38-2, Phosphoric acid,
 miscellaneous 7664-93-9, Sulfuric acid, miscellaneous 7697-37-2,
 Nitric acid, miscellaneous 10343-62-1, Metaphosphoric acid
 10377-60-3, Magnesium nitrate 13598-36-2D, Phosphonic acid, organic
 derivs. 14798-03-9D, Ammonium, salts
 RL: USES (Uses)
 (pH buffering agent, dampening water compns. containing, with
 benzimidazoles, anticorrosive, for lithog. plates)

L74 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1992:422477 HCAPLUS
 DOCUMENT NUMBER: 117:22477
 ORIGINAL REFERENCE NO.: 117:3981a,3984a
 TITLE: Immobilization of biocatalysts using crosslinked
 acetoacetyl poly(vinyl
 alcohol) hydrogels
 AUTHOR(S): Kondo, Masao; Mannen, Takeo; Shimokawa, Wataru;
 Fukumori, Katsuaki
 CORPORATE SOURCE: Food Res. Inst., Aichi Prefect. Gov., Nagoya,

SOURCE: 451, Japan
 Hakko Kogaku Kaishi (1991), 69(5),
 337-44
 CODEN: HKOKDE; ISSN: 0385-6151

DOCUMENT TYPE: Journal
 LANGUAGE: Japanese

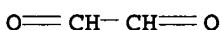
AB Acetoacetyl polyvinyl alc. solution formed crosslinked hydrogels in various gelating times at appropriate pH, when it was treated with bifunctional gelating agents such as aldehyde and hydrazide. The appearance of the hydrogels was similar to calcium alginate gels, and they were stable under conditions which cause decomposition of the latter. The hydrogels were useful as immobilization supports for microorganisms and enzymes. The present paper is concerned with the gelating condition of acetoacetyl polyvinyl alc. and the immobilization method using the gels. Acetobacter aceti cells and alc. dehydrogenase were tested as immobilized biocatalysts.

IT 107-22-2, Glyoxal 111-30-8, Pentanedral

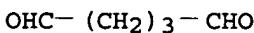
RL: USES (Uses)
 (acetoacetyl poly(vinyl alc.)
 crosslinked hydrogels formation by)

RN 107-22-2 HCPLUS

CN Ethanedral (CA INDEX NAME)



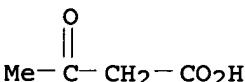
RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



IT 39290-68-1
 RL: USES (Uses)
 (crosslinked hydrogels, enzymes and microorganisms immobilization
 on and stability of)
 RN 39290-68-1 HCPLUS
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4
 CMF C4 H6 O3



CM 2

CRN 9002-89-5
 CMF (C2 H4 O)x
 CCI PMS

CM 3

CRN 557-75-5
CMF C2 H4 O

CC 7-7 (Enzymes)

Section cross-reference(s): 9, 16

ST immobilization biocatalyst acetoacetyl poly vinyl
alc; microorganism immobilization acetoacetyl poly
vinyl alc; Acetobacter immobilization acetoacetyl
poly vinyl alc; immobilized enzyme
acetoacetyl poly vinyl alc

IT Acetobacter aceti

Microorganism

(immobilization of, on acetoacetyl poly(vinyl
alc.) crosslinked hydrogels)

IT Fermentation

(of acetate, Acetobacter aceti immobilized cells and acetoacetyl
poly(vinyl alc.) crosslinked hydrogel
for)

IT Immobilization, biochemical

(of enzymes and microorganisms, on acetoacetyl poly(
vinyl alc.) crosslinked hydrogels)

IT Enzymes

RL: USES (Uses)

(immobilized, on acetoacetyl poly(vinyl
alc.) crosslinked hydrogels)

IT 107-22-2, Glyoxal 111-30-8, Pentanedral

497-18-7, Carbohydrazide 1071-93-8 9047-50-1, Dialdehyde
starch

RL: USES (Uses)

(acetoacetyl poly(vinyl alc.)
crosslinked hydrogels formation by)

IT 39290-68-1

RL: USES (Uses)

(crosslinked hydrogels, enzymes and microorganisms immobilization
on and stability of)

IT 64-19-7, Acetic acid, biological studies

RL: BIOL (Biological study)

(fermentation of, Acetobacter aceti immobilized cells and acetoacetyl
poly(vinyl alc.) crosslinked
hydrogels for)

IT 9031-72-5, Alcohol dehydrogenase

RL: PROC (Process)

(immobilization of, on acetoacetyl poly(vinyl
alc.) crosslinked hydrogels)

L74 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1952:14649 HCAPLUS

DOCUMENT NUMBER: 46:14649

ORIGINAL REFERENCE NO.: 46:2572d-i,2573a

TITLE: Polyvinyl alcohol
-1-butene-1,3-dione reaction products

INVENTOR(S): Jones, Giffin D.

PATENT ASSIGNEE(S): General Aniline & Film Corp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

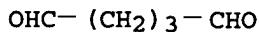
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2536980		19510102	US 1947-745648	
				194705
				02

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AB Partial or complete esterification of the OH groups of polyvinyl alc. (I) with a β -keto acid is effected by heating a mixture of I and a diketene of the general type $\text{RCH}_2\text{C}(:\text{O})\text{CR}'\text{:C}:\text{O}$, where R and R' are alkyl, in a suitable inert solvent, such as formamide, N-alkyl- and dialkylformamides, AcNH_2 , γ -butyrolactam, caprolactam, 2-morpholone, etc., at 100-50°. Partially or completely hydrolyzed polyvinyl esters are suitable as I. Thus to I (100% hydrolyzed and having a viscosity as a 4% aqueous solution of 24 centipoises at 20°) 300 in anhydrous HCONMe_2 (II) 2700 is added slowly with stirring during 1.5 hrs. AcCH:C:O 108 in II 2700 at 120°, and the hot solution poured into MeOH 6400 to precipitate a partial acetoacetic ester of I (III) with 18.9% of the OH groups acylated 335 parts. Similarly are prepared the partial acetoacetic esters (IV) of I having the following percentages of OH groups esterified: 10 (V) from I (4% aqueous solution, 24 centipoises at 20°); 16.2 (VI) and 7.6 (VII) from I (4% aqueous solution, 25 centipoises at 20°); 6.8 (VIII) from I (4% aqueous solution, 51 centipoises at 20°); 10.8 (IX) from 87% hydrolyzed polyvinyl acetate (4% aqueous solution, 22 centipoises at 20°). The IV having 4.5-10% of the OH groups esterified, obtained from water-soluble I having viscosities of 15-30 centipoises at 20° are capable of forming thermoreversible gels when heated with a gelling agent such as adipohydrazide (X), and are useful as gelatin substitutes in photographic emulsions. Directions for the preparation of a photographic emulsion (XI) containing III and X are given. Paper coated with XI gives in standard photographic procedures prints having clear highlight portions, good gradation, and deep black in the shadow portions, with speeds equal, or slightly higher than standard paper; the finished prints are not attacked by boiling 5 min. in H_2O . Addition of 2% X solution 1 to 5% aqueous IV solns. 25 g. causes gelation of the clear viscous solution. The variation of the m. and gelling points depends on the pH (adjusted with 25% aqueous citric acid) and is listed in the following for some IV at various pH in the order: pH, m.p., gelling point: V 2.5, 50°, 35°; 3.0, 55°, 45°; 4.0, 65°, 48°; 5.0, 70°, 46°; 6.0, 74°, 55°; VIII 2.5, 43°, 36°; 3.0, 51°, 44°; 4.0, 57°, 46°; 5.0, above 80°, -; VII 2.5, 46°, 25°; 3.0, 58°, 45°; 4.0, 66°, 58°; 5.0, above 75°, -; IX 2.5, 55°, 40°; 3.0, 58°, 47°; 4.0, 64°, 52°; 5.0, 71°, 55°; 6.0, 76°, 55°. The IV are also useful as nondiffusing color coupling components in certain color photographic processes. IV with higher acyl contents, such as VI, are valuable creaseproofing agents for textiles. The IV with a relatively high acyl content can be cast and molded and possess phys. properties similar to those of polyvinyl acetate.

IT 111-30-8, Glutaraldehyde

(and derivs.)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



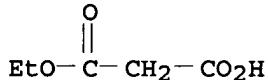
IT 9002-89-5, Vinyl alcohol, homopolymer
 (and their esters, reaction products with 1-butene-1,3-dione and
 related compds.)
 RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C₂ H₄ O



IT 1071-46-1P, Malonic acid, ethyl ester
 RL: PREP (Preparation)
 (preparation of)
 RN 1071-46-1 HCPLUS
 CN Propanedioic acid, 1-ethyl ester (CA INDEX NAME)



CC 10 (Organic Chemistry)
 IT Gelatin substitutes
 (acetoacetic acid and related compound esters with
 polyvinyl alc.)
 IT Textiles
 (creaseproofing of, polyvinyl alcs. acylated
 with 1-butene-1,3-diones for)
 IT Aldehydes
 (di-)
 IT Acetoacetic acid, esters with polyvinyl alc.
 RL: PREP (Preparation)
 IT 111-30-8, Glutaraldehyde
 (and derivs.)
 IT 691-45-2, 1-Butene-1,3-dione
 (and related compds., reaction products with polyvinyl
 alc. and its esters)
 IT 9002-89-5, Vinyl alcohol, homopolymer
 (and their esters, reaction products with 1-butene-1,3-dione and
 related compds.)
 IT 1071-46-1P, Malonic acid, ethyl ester
 RL: PREP (Preparation)
 (preparation of)

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FILE COVERS 1907 - 14 Jul 2008 VOL 149 ISS 3
FILE LAST UPDATED: 13 Jul 2008 (20080713/ED)

HCAPplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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(FILE 'HCAPLUS' ENTERED AT 15:32:32 ON 14 JUL 2008)
D L78 IBIB ABS HITSTR HITIND 1-6
D COST
L79 44 SEA ABB=ON PLU=ON L63 (3A) L69
L80 8 SEA ABB=ON PLU=ON L79 AND (L38 OR L39)
L81 8 SEA ABB=ON PLU=ON L80 NOT (L71 OR L72 OR L73 OR L74 OR
L75 OR L76 OR L77 OR L78)

FILE 'HCAPLUS' ENTERED AT 16:58:09 ON 14 JUL 2008

=> d 181 ibib abs hitstr hitind 1-8

L81 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:513287 HCAPLUS
DOCUMENT NUMBER: 144:498431
TITLE: Manufacture of crosslinked polyvinyl acetal
films, sheet polarizers comprising same films,
and liquid crystal displays (LCDs) equipped with
same polarizers
INVENTOR(S): Masuko, Yoshihiro; Shimizu, Mikio; Takei,
Atsushi; Tokunaga, Hisatsugu
PATENT ASSIGNEE(S): Denki Kagaku Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2006137078 A 20060601 JP 2004-328395200411
12

PRIORITY APPLN. INFO.: JP 2004-328395

200411
12

AB The crosslinked polyvinyl acetal films are manufactured by casting of organic solvent dopes containing polyvinyl acetals and crosslinking agents, wherein crosslinking is carried out until the crosslinking degree of 1-60% in a step of vaporization of the solvents in the dopes, and/or after a step of casting into films. Preferably, the crosslinking agents are selected from boric acids, boron compds. generating boric esters upon reaction with OH groups, silicon compds. generating siloxy groups upon reaction with OH groups, and blocked isocyanates. Also claimed are sheet polarizers comprising same films as protective films, and LCDs. The films show high adhesion to the polarizing films.

IT 9002-89-5DP, Poly(vinyl alcohol), cyclic acetals with acetaldehyde, reaction products with boric acid
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(films; manufacture of crosslinked polyvinyl acetal films for protection of sheet polarizers for LCDs)

RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

 $\text{H}_2\text{C}=\text{CH}-\text{OH}$

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 73

IT 75-07-0DP, Acetaldehyde, cyclic acetals with poly(vinyl alc.), reaction products with boric acid
78-10-4DP, Tetraethoxysilane, reaction products with poly(vinyl alc.) cyclic acetoacetals 150-46-9DP,
Triethoxyborane, reaction products with poly(vinyl alc.) cyclic acetoacetals 9002-89-5DP,
Poly(vinyl alcohol), cyclic acetals with acetaldehyde, reaction products with boric acid 10043-35-3DP,
Boric acid, reaction products with poly(vinyl alc.) cyclic acetoacetals 118367-90-1DP, Takenate B 846N,
reaction products with poly(vinyl alc.) cyclic acetoacetals
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(films; manufacture of crosslinked polyvinyl acetal films for protection of sheet polarizers for LCDs)

L81 ANSWER 2 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:847497 HCPLUS
 DOCUMENT NUMBER: 135:379895
 TITLE: Lithographic formation of electrically
 conductive metal minute pattern on substrate
 INVENTOR(S): Kato, Hideto; Furihata, Tomoyoshi; Ueda, Takashi
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
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JP 2001323393	A	20011122	JP 2000-143033	200005 16
PRIORITY APPLN. INFO.:			JP 2000-143033	200005 16

AB The formation involves (1) forming first resist pattern capable of supplying an acid on a substrate, (2) forming second resist layer which does not dissolve the first resist pattern and becomes insol. or slightly soluble to water or an aqueous alc. solution, (3) heating or exposing with light of an interlayer of the two resists to form the water- or alc.-insol. or -slightly soluble region of the second resist, (4) developing the second resist with water or the aqueous alc. solution to form a bilayered resists, and (5) electro- or electroless plating an elec. conductive metal to form a conductor pattern. The method enables down-sizing holes and spaces of the patterned resist to give the metal pattern of <0.4 μ m space.

IT 9002-89-5, Polyvinyl alcohol
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (second resist component; lithog. formation of elec. conductive metal minute pattern on substrate by using bilayered resists)

RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

$\text{H}_2\text{C}=\text{CH}-\text{OH}$

IC ICM C25D005-02
 ICS C23C018-31; C25D007-00; G11B005-31
 CC 76-14 (Electric Phenomena)
 Section cross-reference(s): 74
 IT 140-95-4
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agent for polyvinyl
 acetals in second resist; lithog. formation of elec.

conductive metal minute pattern on substrate by using bilayered resists)

IT 9002-89-5, Polyvinyl alcohol
 9004-65-3, Hydroxypropyl methyl cellulose
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (second resist component; lithog. formation of elec. conductive metal minute pattern on substrate by using bilayered resists)

L81 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:693390 HCAPLUS

DOCUMENT NUMBER: 135:247253

TITLE: Preparation of polyvinyl acetals as biomedical devices

INVENTOR(S): Goupil, Dennis W.; Chaouk, Hassan; Holland, Toy; Asfaw, Bruktawit T.; Goodrich, Stephen D.; Latini, Lucas

PATENT ASSIGNEE(S): Biocure, Inc., USA

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001068722	A1	20010920	WO 2001-US8008	200103 13
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2402774	A1	20010920	CA 2001-2402774	200103 13
AU 2001043616	A	20010924	AU 2001-43616	200103 13
US 20010051670	A1	20011213	US 2001-804925	200103 13
US 6652883	B2	20031125		
US 20010056301	A1	20011227	US 2001-805483	200103 13
US 7070809	B2	20060704		
EP 1263802	A1	20021211	EP 2001-916614	200103 13
EP 1263802	B1	20051123		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				

PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003527173	T	20030916	JP 2001-567810	
				200103
				13
AU 2001243616	B2	20051117	AU 2001-243616	
				200103
				13
AT 310752	T	20051215	AT 2001-916614	
				200103
				13
ES 2253360	T3	20060601	ES 2001-916614	
				200103
				13
AT 327262	T	20060615	AT 2001-916599	
				200103
				13
US 20030211073	A1	20031113	US 2003-465398	
				200306
				19
US 20030223956	A1	20031204	US 2003-465497	
				200306
				19
US 20050129656	A1	20050616	US 2005-34653	
				200501
				13
PRIORITY APPLN. INFO.:			US 2000-188975P	P
				200003
				13
			US 2000-254697P	P
				200012
				11
			US 2001-804925	A3
				200103
				13
			US 2001-804963	A3
				200103
				13
			WO 2001-US8008	W
				200103
				13
			US 2003-465398	A1
				200306
				19

AB Hydrogel biomedical articles formed from macromers having a polymeric backbone comprise 1,2-diol and/or 1,3-diol units, such as polyvinyl alc., and pendant chains bearing crosslinkable groups and, optionally, other modifiers. Thus, Mowiol 4-88 was treated with acryamidoacetaldehyde di-Me acetate in HOAC solution to give crosslinked polymers.

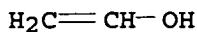
IT 9002-89-5DP, Poly(vinyl alcohol)
, acetal derivs.

RL: DEV (Device component use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(crosslinked; preparation of polyvinyl acetals as biomedical devices)
 RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



IC ICM C08F008-00
 ICS C08F008-30; A61L027-16; A61L027-52; A61L027-34; A61L029-04;
 A61L029-08; A61L031-04; A61L031-10; C08F290-12
 CC 63-7 (Pharmaceuticals)
 Section cross-reference(s): 9, 37
 IT Crosslinking agents
 (photochem.; preparation of polyvinyl acetals as
 biomedical devices)
 IT Coating materials
 Crosslinking agents
 Drug delivery systems
 Hydrogels
 Molecular weight distribution
 Sensors
 Viscosity
 (preparation of polyvinyl acetals as biomedical
 devices)
 IT 9002-89-5DP, Poly(vinyl alcohol)
), acetal derivs.
 RL: DEV (Device component use); SPN (Synthetic preparation); THU
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)
 (crosslinked; preparation of polyvinyl acetals as biomedical devices)

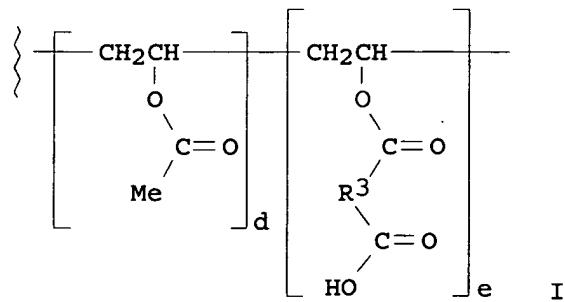
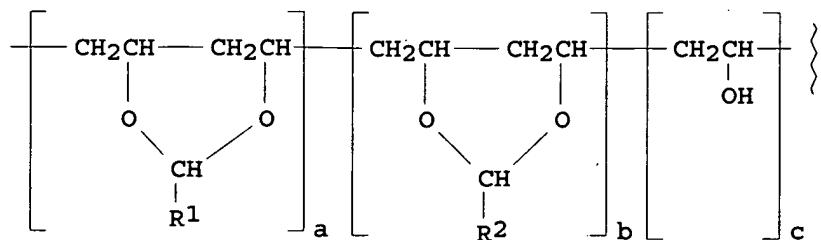
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L81 ANSWER 4 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:254902 HCPLUS
 DOCUMENT NUMBER: 134:281831
 TITLE: Modified vinyl acetal polymers and modifiers for
 curable polymers for electric insulating uses
 INVENTOR(S): Tanaka, Toshiyuki; Onda, Atsushi; Katayama,
 Hiroo
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001098027	A	20010410	JP 2000-228827	200007

			28
JP 3740962	B2	20060201	
US 6555617	B1	20030429	US 2000-628321
			200007
US 20030130435	A1	20030710	28
			200211
US 6737474	B2	20040518	08
PRIORITY APPLN. INFO.:			JP 1999-214936 A 199907
			29
			JP 1999-214935 A 199907
			29
			JP 1999-216321 A 199907
			30
		US 2000-628321	A1 200007
			28

GI



AB The vinyl acetal polymers mainly comprise structural repeating units I [R1 = (substituted) aryl, aralkyl- or aryl-substituted alkenyl; R2 = H, C1-10 alkyl; R3 = (substituted) C1-20 hydrocarbylene; a-e = content of each units (mol%); 0 < a ≤ 85; 0 ≤ b ≤ 80; 0 ≤ c ≤ 50; 0 ≤ d ≤ 30; 0 < e ≤ 50]. The curable polymers are useful for anisotropic

elec. conductive films and interlayer elec. insulating films. Thus, Gohsenol NL 05 (polyvinyl alc.) was reacted with PhCH₂CHO and butylaldehyde, then reacted with phthalic anhydride to give a modified polymer. Thus, a solution containing Epikote 828, the modified polymer, and a curing catalyst was applied on a polyimide film and heated to give a film showing dielec. constant 26 MHz, tan δ 24.5 x 10⁻³, and good adhesion to the polyimide film.

IT 9002-89-5DP, Gohsenol NL 05, reaction products with aldehydes and carboxylic anhydride

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(crosslinking agent; modified vinyl acetal polymers for curable polymers for elec. insulators and conductive films)

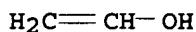
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IC ICM C08F116-38

ICS C08F008-14; C08F008-46; C08F008-48; C08L029-14; C08L101-00; H01B003-42

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 76

ST polyvinyl acetal modifier epoxy resin dielec film; epoxy resin crosslinking agent polyvinyl acetal; elec conductor anisotropic epoxy resin polyvinyl acetal; phenylacetonealdehyde butylaldehyde polyvinyl alc modifier epoxy resin

IT 66-77-3DP, 1-Naphthaldehyde, reaction products with polyvinyl alc. and succinic anhydride 85-44-9DP, Phthalic anhydride, reaction products with polyvinyl acetals 100-52-7DP, Benzaldehyde, reaction products with polyvinyl alc. and succinic anhydride 104-53-0DP, Benzene propanal, reaction products with polyvinyl alc. and succinic anhydride 108-30-5DP, Succinic anhydride, reaction products with polyvinyl acetals 122-78-1DP, Phenylacetonealdehyde, reaction products with polyvinyl alc. and carboxylic anhydride 123-72-8DP, Butylaldehyde, reaction products with polyvinyl alc. and carboxylic anhydride 9002-89-5DP, Gohsenol NL 05, reaction products with aldehydes and carboxylic anhydride

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(crosslinking agent; modified vinyl acetal polymers for curable polymers for elec. insulators and conductive films)

L81 ANSWER 5 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:252997 HCPLUS

DOCUMENT NUMBER: 134:282203

TITLE: Curable resin compositions with good curability
 and film forming properties
 INVENTOR(S): Tanaka, Toshiyuki; Toda, Atsushi
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001098165	A	20010410	JP 2000-228828	200007 28
US 6555617	B1	20030429	US 2000-628321	200007 28
US 20030130435	A1	20030710	US 2002-290515	200211 08
US 6737474	B2	20040518	JP 1999-214935	A 199907 29
PRIORITY APPLN. INFO.:			JP 1999-214936	A 199907 29
			JP 1999-216321	A 199907 30
			US 2000-628321	A1 200007 28

AB The compns. comprise (A) curable resins, (B) curing catalysts and
 (C) curing agents from modified
 polyvinyl acetal resins having (a) acetal units
 derived from aromatic aldehydes, aralkyl aldehydes or/and aryl-containing
 alkenyl aldehydes, 0-85, (b) acetal units derived from HCHO or/and
 C1-10 alkyl aldehydes, 0-80, (c) unmodified vinyl alc. units, 0-50,
 (d) vinyl acetate units 0-30, and (e) dicarboxylic acid vinyl ester
 units 0-50 mol%, provided that (a+b) ≠ 0. Thus, mixing
 Gohsenol NL-05 (a polyvinyl alc.) 100 with
 phenylacetaldehyde 195, butylaldehyde 33, PhMe 584 and 35% HCl 13.2,
 heating to 58° over 1.5 h and at 58° for 5 h, cooling
 to 35°, adding Na acetate 18.26 dissolved in MeOH 535.6 g and
 working up gave a vinyl acetal resin which was esterified with
 phthalic anhydride, combined at 1.8 g with Epikote 828 1.2, MEK 9.0
 and 1-(2-cyanoethyl)-2-ethyl-4-methylimidazole 0.036 g, coated on a
 Upilex R (polyimide) film and heated at 180° for 2 h to give
 a coat film with good adhesion.
 IT 9002-89-5DP, Gohsenol NL-05, mixed acetal derivs.,
 esterified with dicarboxylic anhydride
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use);

POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (curable resin compns. with good curability and film forming properties)

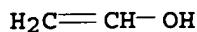
RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IC ICM C08L101-00

ICS C08L029-14; C08L063-00; C09D004-02; C09D129-14; C09D163-00;
 C09J004-02; C09J129-14; C09J163-00

CC 42-9 (Coatings, Inks, and Related Products)

IT 66-77-3DP, 1-Naphthaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride 85-44-9DP, Phthalic anhydride, esters with polyvinyl mixed acetals 100-52-7DP, Benzaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride 104-53-0DP, Benzene propanal, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride 110-15-6DP, Succinic acid, esters with polyvinyl mixed acetals 110-16-7DP, Maleic acid, esters with polyvinyl mixed acetals 122-78-1DP, Phenylacetaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride 123-72-8DP, Butylaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (curable resin compns. containing dicarboxylic acid-esterified mixed polyvinyl acetals with good curability and film forming properties)

IT 9002-89-5DP, Gohsenol NL-05, mixed acetal derivs., esterified with dicarboxylic anhydride

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (curable resin compns. with good curability and film forming properties)

L81 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:210734 HCAPLUS

DOCUMENT NUMBER: 126:200422

ORIGINAL REFERENCE NO.: 126:38737a,38740a

TITLE: Continuous manufacture of PVA-type sponge

INVENTOR(S): Uehara, Tsutomu; Kotani, Yoshiji; Sato, Takaya

PATENT ASSIGNEE(S): Nisshin Spinning, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09012763	A	19970114	JP 1995-189875	199507 03
JP 3511274	B2	20040329	JP 1995-189875	199507 03
PRIORITY APPLN. INFO.:				

AB Title process comprises mixing PVA aqueous solns., pore-forming agents, crosslinking agents, and reactive catalysts, molding, heating for crosslinking, and washing for removal of the pore-foaming agents. Thus, a 10%-PVA solution 3000, PVA fiber 30, Sumitex M 3 90, Sumitex ACX 30, and Na₂SO₄.10H₂O 6000 g were mixed, kneaded at 5°, molded at 98° for 30 min, and washed to give a sponge with good processability.

IC ICM C08J009-26
 ICS C08J009-26; C08L029-02

CC 38-2 (Plastics Fabrication and Uses)

ST PVA sponge pore forming agent; crystal sodium sulfate
 PVA sponge molding; polyvinyl acetal
 sponge crosslinking agent

IT Crosslinking catalysts
 Sponges (artificial)
 (continuous manufacture of PVA-type sponge using
 pore-foaming and crosslinking agents)

IT Polyvinyl acetals
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (continuous manufacture of PVA-type sponge using
 pore-foaming and crosslinking agents)

IT Aminoplasts
 RL: CAT (Catalyst use); USES (Uses)
 (crosslinking agents; continuous manufacture of PVA-type
 sponge using pore-foaming and crosslinking agents)

IT Polyvinyl acetals
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (formals; continuous manufacture of PVA-type sponge using
 pore-foaming and crosslinking agents)

IT 50-00-0, Formaldehyde, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (acetalization agents; continuous manufacture of PVA-type
 sponge using pore-foaming and crosslinking agents)

IT 9003-20-7DP, PVA, acetalized
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (continuous manufacture of PVA-type sponge using
 pore-foaming and crosslinking agents)

IT 9003-08-1, Sumitex M 3
 RL: CAT (Catalyst use); USES (Uses)
 (crosslinking agents; continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT 58056-74-9, Sumitex ACX
 RL: CAT (Catalyst use); USES (Uses)
 (crosslinking catalysts; continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT 7757-82-6, Sodium sulfate, uses
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (pore-forming agents; continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

L81 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1983:527300 HCAPLUS
 DOCUMENT NUMBER: 99:127300
 ORIGINAL REFERENCE NO.: 99:19531a,19534a
 TITLE: Porous ceramics
 PATENT ASSIGNEE(S): Kanebo, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58064255	A	19830416	JP 1981-161702	198110 08
JP 63019476	B	19880422	JP 1981-161702	198110 08
PRIORITY APPLN. INFO.:				

AB Porous ceramics are made by mixing fine ceramic materials with polyvinyl alc.), reacting in the presence of a crosslinking agent to make ceramic-polyvinyl acetal type synthetic resin porous bodies, and firing in an oxidizing atmospheric Thus, poly(vinyl alc.) was mixed with water, heated to 60°, mixed with a starch dispersion, heated, mixed with formalin, H₂SO₄, and water, and the mixture was mixed with a ceramic powder containing SiO₂ 9, Mg(OH)₂ 21, Al(OH)₃ 5, kaolin 28, and grog 37 parts, molded, heated, washed, and fired at 1520° for 24 h to give a porous ceramic having porosity consisting of continuous pores 88%. It can be used for dust, mist, and oil separation and as filter.

IC C04B021-06
 CC 57-2 (Ceramics)

L81 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1980:111927 HCAPLUS
 DOCUMENT NUMBER: 92:111927
 ORIGINAL REFERENCE NO.: 92:18271a,18274a
 TITLE: Semipermeable membranes
 INVENTOR(S): Kamiyoshi, Kazuhiko; Takeda, Noryuki; Maita,

PATENT ASSIGNEE(S): Hitoshi
 Sekisui Chemical Co. Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54139887	A	19791030	JP 1978-48067	197804 21
PRIORITY APPLN. INFO.:			JP 1978-48067	A 197804 21

AB Semipermeable membranes are prepared from crosslinked polyvinyl acetals. Thus, 0.5% aqueous poly(vinyl alc
 .) (d.p. 1500) acetal with Me₂NCH₂CHO is cast, dried at 50°
 for 24 h to an 8.9-μ membrane, and crosslinked with glyoxal
 [107-22-2] vapor for 30 min to give a semipermeable membrane with
 salt rejection (0.5% aqueous NaCl, 40 kg/cm²) 70.3% and water permeation
 0.95 ton/m²-h.
 IC B01D013-04
 CC 37-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 61
 ST polyvinyl acetal membrane semipermeable; glyoxal crosslinker
 polyvinyl acetal; crosslinking polyvinyl acetal
 membrane; desalination membrane semipermeable;
 dimethylaminoacetaldehyde polyvinyl acetal
 IT 107-22-2
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agents, for polyvinyl
 acetal semipermeable membranes)
 IT 52334-92-6D, acetal with poly(vinyl alc
 .)
 RL: USES (Uses)
 (membranes, crosslinking of semipermeable)

=>

FILE 'HCAPLUS' ENTERED AT 15:32:32 ON 14 JUL 2008
 L78 6 S L70 NOT L71-75

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L78 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:97926 HCAPLUS
 DOCUMENT NUMBER: 142:207649
 TITLE: Ink-jet printing paper and its manufacture
 INVENTOR(S): Kaneko, Manabu; Tsubaki, Yoshinori
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005028747	A	20050203	JP 2003-196377	200307 14
PRIORITY APPLN. INFO.:			JP 2003-196377	200307 14

AB In the paper having porous layers containing ionizing radiation-crosslinkable hydrophilic polymers and inorg. fine particles on supports, the hydrophilic polymers are crosslinked with crosslinking agents. The paper is manufactured by applying solns. containing the hydrophilic polymers, the inorg. fine particles, and the crosslinking agents on the supports and drying. The paper may be manufactured by applying solns. containing the hydrophilic polymers and the inorg. fine particles on supports, applying the crosslinking agents on the resulting porous layers, and drying. The paper shows good ink absorbability, surface smoothness, crack resistance, and high gloss.

IT 107-22-2, Glyoxal
 RL: RCT (Reactant); TEM (Technical or engineered material use);
 RACT (Reactant or reagent); USES (Uses)
 (crosslinking agents; manufacture of ink-jet
 printing paper having hydrophilic polymer porous layers with good
 ink absorbability)

RN 107-22-2 HCAPLUS

CN Ethanedial (CA INDEX NAME)

O—CH—CH—O

IC ICM B41M005-00
 ICS B41J002-01

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Polyvinyl acetals
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (crosslinked; manufacture of ink-jet printing paper having hydrophilic

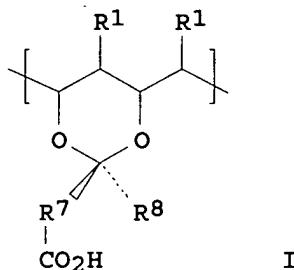
IT 107-22-2, Glyoxal 822-06-0, Hexamethylene diisocyanate
 2224-15-9, Ethylene glycol diglycidyl ether 10043-35-3, Boric acid, reactions 15791-08-9 26750-50-5, Bisvinylsulfonylmethyl ether
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (crosslinking agents; manufacture of ink-jet printing paper having hydrophilic polymer porous layers with good ink absorbability)

L78 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:587942 HCAPLUS
 DOCUMENT NUMBER: 141:124156
 TITLE: Crosslinking of poly(vinyl acetals)
 INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler, Matthias
 PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10319201	A1	20040722	DE 2003-10319201	200304 29
WO 2004063231	A1	20040729	WO 2003-EP14109	200312 12
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003294838	A1	20040810	AU 2003-294838	200312 12
BR 2003017977	A	20051206	BR 2003-17977	200312 12
EP 1622946	A1	20060208	EP 2003-785800	200312 12
CN 1759125	A	20060412	CN 2003-80110133	200312 12
JP 2006513284	T	20060420	JP 2004-565965	

US 20060052533	A1	20060309	US 2005-542019	200312 12
PRIORITY APPLN. INFO.:				200507 11
DE 2003-10300321				IA 200301 09
DE 2003-10319201				A 200304 29
WO 2003-EP14109				W 200312 12

GI



AB The poly(vinyl acetals) are crosslinked by reacting a polymer containing structural units (1) CHOHCHR1 (R1 = H, Me) and optionally structural units (2) CHO2CR2CHR1 (R2 = H, C1-6 alkyl), (3) CR5R6CR3R4 (R3-R6 = residues with mol. weight 1-500 g/mol) and acetal units I [R7 = bond, C1-10 alkylene, (un)substituted C6-12 arylene; R8 = H, CO2H, C1-10 alkyl, (un)substituted C6-12 aryl] with a polyaldehyde R9(CHO)n (R9 = C1-40 residue; n ≥ 2), e.g., pentanedral or nonanedral, and with esterification of structural units (1) with structural units I. The crosslinked poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

IT 111-30-8, Glutardialdehyde 51651-40-2,
1,9-Nonanedral
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; crosslinking
of poly(vinyl acetals) with
polyaldehydes)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



RN 51651-40-2 HCAPLUS
 CN Nonanedral (CA INDEX NAME)

OHC- $(CH_2)_7$ -CHO

IC ICM C08F008-28
 ICS C08F008-14; C08F016-00
 CC 35-8 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 38, 74, 76
 ST polyvinyl acetal crosslinking polyaldehyde;
 dialdehyde crosslinking agent polyvinyl acetal
 IT Windshields
 (automotive; crosslinking of poly(vinyl
 acetals) with polyaldehydes)
 IT Coating materials
 Crosslinking
 Plastic films
 (crosslinking of poly(vinyl acetals
) with polyaldehydes)
 IT Polyvinyl acetals
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking of poly(vinyl acetals
) with polyaldehydes)
 IT Safety glass
 RL: TEM (Technical or engineered material use); USES (Uses)
 (laminated safety glass; crosslinking of poly(
 vinyl acetals) with polyaldehydes)
 IT Crosslinking agents
 (polyaldehydes; crosslinking of poly(vinyl
 acetals) with)
 IT Aldehydes, reactions.
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (polyfunctional, crosslinking agents; crosslinking of
 poly(vinyl acetals) with)
 IT Laminated glass
 RL: TEM (Technical or engineered material use); USES (Uses)
 (safety glass; crosslinking of poly(vinyl
 acetals) with polyaldehydes)
 IT 111-30-8, Glutardialdehyde 51651-40-2,
 1,9-Nonanedral
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; crosslinking
 of poly(vinyl acetals) with
 polyaldehydes)

L78 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:587941 HCAPLUS
 DOCUMENT NUMBER: 141:124155
 TITLE: Crosslinking of poly(vinyl
 acetals)
 INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler,
 Matthias
 PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany
 SOURCE: Ger. Offen., 9 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

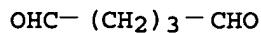
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10319199	A1	20040722	DE 2003-10319199	200304 29
WO 2004063232	A1	20040729	WO 2003-EP14110	200312 12
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003293853	A1	20040810	AU 2003-293853	200312 12
EP 1606325	A1	20051221	EP 2003-789238	200312 12
EP 1606325	B1	20080305		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006513285	T	20060420	JP 2004-565966	200312 12
AT 388170	T	20080315	AT 2003-789238	200312 12
US 20060205871	A1	20060914	US 2005-542022	200512 30
PRIORITY APPLN. INFO.:				DE 2003-10300320 IA 200301 09
DE 2003-10319199 A 200304 29				
WO 2003-EP14110 W 200312 12				

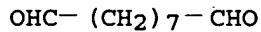
AB The poly(vinyl acetals) are crosslinked by reacting a polymer containing structural units (1) CHOHCHR1 (R1 = H, Me) and optionally structural units (2) CHO2CR2CHR1 (R2 = H, C1-6 alkyl), (3) CR5R6CR3R4 (R3-R6 = residues with mol. weight 1-500 g/mol) and (4) CHR7CR8CO2H [R7, R8 = H,

carboxyl, C1-10 (carboxy-substituted) alkyl, (un)substituted C6-12 aryl] with a polyaldehyde R9(CHO)_n (R9 = C1-40 residue; n ≥ 2), e.g., pentanedral or nonanedral, and with esterification of structural units (1) with structural units (4). The crosslinked poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

IT 111-30-8, Glutardialdehyde 51651-40-2,
1,9-Nonanedral
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; crosslinking
of poly(vinyl acetals) with
polyaldehydes)
RN 111-30-8 HCPLUS
CN Pentanedral (CA INDEX NAME)



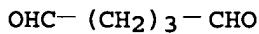
RN 51651-40-2 HCPLUS
CN Nonanedral (CA INDEX NAME)



IC ICM C08F008-28
ICS C08F008-14; C08F016-00
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 74, 76
ST polyvinyl acetal crosslinking polyaldehyde;
dialdehyde crosslinking agent polyvinyl acetal
IT Windshields
(automotive; crosslinking of poly(vinyl
acetals) with polyaldehydes)
IT Polyvinyl acetals
RL: TEM (Technical or engineered material use); USES (Uses)
(crosslinked; crosslinking of poly(vinyl
acetals) with polyaldehydes)
IT Coating materials
Crosslinking
Plastic films
(crosslinking of poly(vinyl acetals
) with polyaldehydes)
IT Safety glass
RL: TEM (Technical or engineered material use); USES (Uses)
(laminated safety glass; crosslinking of poly(
vinyl acetals) with polyaldehydes)
IT Crosslinking agents
(polyaldehydes; crosslinking of poly(vinyl
acetals) with)
IT Aldehydes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyfunctional, crosslinking agents; crosslinking of
poly(vinyl acetals) with)
IT Laminated glass
RL: TEM (Technical or engineered material use); USES (Uses)
(safety glass; crosslinking of poly(vinyl

IT 111-30-8, Glutaraldehyde 51651-40-2,
 1,9-Nonanedial
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; crosslinking
 of poly(vinyl acetals) with
 polyaldehydes)

L78 ANSWER 4 OF 6 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:574566 HCPLUS
 DOCUMENT NUMBER: 142:280991
 TITLE: Study of the preparation of PVA composite
 nanofiltration membrane
 AUTHOR(S): Bian, Xiaokai; Shi, Liuqing; Liang, Guoming; Lu,
 Xiaofeng
 CORPORATE SOURCE: Shanghai Institute of Nuclear Research, Chinese
 Academy of Science, Shanghai, 201800, Peop. Rep.
 China
 SOURCE: Mo Kexue Yu Jishu (2004), 24(2), 12-14, 22
 CODEN: MKYJEF; ISSN: 0254-6140
 PUBLISHER: Mo Kexue Yu Jishu Bianjibu
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB The composite nanofiltration is prepared by coating hydrophilic
 polyvinyl alc. (PVA) on the base membrane. The effects of the
 properties of base membrane, the concentration of PVA and crosslinking
 solution, and the thickness of the surface layer, etc. on the membrane
 performance are investigated. The results showed that PVA composite
 membrane could be formed by coating 5% PVA solution and 1%
 glutaraldehyde solution on the base membrane with cut-off mol. weight
 100,000.
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; preparation of polyvinyl
 alc.-coated nanofiltration membrane)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 37
 IT Polyvinyl acetals
 RL: PRP (Properties); TEM (Technical or engineered material use);
 USES (Uses)
 (glutarals; preparation of polyvinyl alc.-coated nanofiltration
 membrane)
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; preparation of polyvinyl
 alc.-coated nanofiltration membrane)

L78 ANSWER 5 OF 6 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:551864 HCPLUS
 DOCUMENT NUMBER: 135:123355
 TITLE: Odorless and nontoxic cyclic acetal derivatives
 for crosslinking agents
 INVENTOR(S): Ando, Yoshinori

PATENT ASSIGNEE(S) : Kuraray Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001206882	A	20010731	JP 2000-17322	200001 26
PRIORITY APPLN. INFO.:		JP 2000-17322 200001 26		

OTHER SOURCE(S) : MARPAT 135:123355
 AB Cyclic acetals were prepared from aliphatic dialdehydes and triols in the presence of acids. Thus, a compatible crosslinking agent for ethylene-vinyl alc. copolymer was prepared from 1,9-nonanedral and glycerin.
 IT 45037-67-0, 1,10-Decanedral 51651-40-2,
 1,9-Nonanedral
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (odorless and nontoxic cyclic acetal derivs. for crosslinking agents)
 RN 45037-67-0 HCPLUS
 CN Decanedral (CA INDEX NAME)

OHC—(CH₂)₈—CHO

RN 51651-40-2 HCPLUS
 CN Nonanedral (CA INDEX NAME)

OHC—(CH₂)₇—CHO

IC ICM C07D317-20
 ICS C07D319-06; C07D321-06; C07D407-06
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s) : 28
 IT Polyvinyl acetals
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (odorless and nontoxic cyclic acetal derivs. for crosslinking agents)
 IT 56-81-5, Glycerin, reactions 4704-94-3, 2-Hydroxymethyl-1,3-propanediol 30157-60-9, 2-Methyl-1,8-octanedral 45037-67-0
 , 1,10-Decanedral 51651-40-2, 1,9-Nonanedral
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (odorless and nontoxic cyclic acetal derivs. for crosslinking agents)

L78 ANSWER 6 OF 6 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1998:210644 HCPLUS
 DOCUMENT NUMBER: 128:271776

ORIGINAL REFERENCE NO.: 128:53777a,53780a
 TITLE: Coated plastic moldings with allergy prevention
 INVENTOR(S): Seki, Michiko; Abe, Osamu; Nishiyama, Shigeru
 PATENT ASSIGNEE(S): Nikon Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10087862	A	19980407	JP 1996-245198	199609 17
PRIORITY APPLN. INFO.:			JP 1996-245198	199609 17

AB Title moldings (e.g., eyeglass frames or hearing aids) have polyvinyl acetal-based human skin-contacting portions. A PMMA plate was soaked in a solution containing S-Lec BM 5, MeSi(OMe)3, glutaraldehyde, and p-toluenesulfonic acid and heated at 90° for 30 min to form a plate showing good allergy prevention after contacting with human skin over 48 h.
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinker for polyvinyl butyral coatings; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)

OHC—(CH₂)₃—CHO

IC ICM C08J007-04
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 38, 63
 IT Polyvinyl butyrls
 RL: TEM (Technical or engineered material use); USES (Uses)
 (S-Lec BM 5; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)
 IT Eyeglasses
 (frames; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)
 IT Acrylic polymers, miscellaneous
 Molded plastics, miscellaneous
 RL: MSC (Miscellaneous)
 (moldings; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)
 IT Allergy
 (prevention; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)
 IT 111-30-8, Glutaraldehyde 1185-55-3, Methyltrimethoxysilane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinker for polyvinyl butyral coatings; plastic

moldings coated with polyvinyl acetal-based
coatings for allergy prevention)

IT 9011-14-7, PMMA

RL: MSC (Miscellaneous)

(moldings; plastic moldings coated with polyvinyl
acetal-based coatings for allergy prevention)

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